

MARK COZAD, JEFFREY ENGSTROM, SCOTT W. HAROLD,
TIMOTHY R. HEATH, SALE LILLY, EDMUND J. BURKE,
JULIA BRACKUP, DEREK GROSSMAN

Gaining Victory in Systems Warfare

China's Perspective on the U.S.-China
Military Balance



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Published by the RAND Corporation, Santa Monica, Calif.

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Library of Congress Control Number: 2023901835

ISBN: 978-1-9774-1056-6

Cover images: Flag—Corri Seizinger/Adobe Stock; radar—Maxiphoto/iStock/Getty Images Plus; Xi Jinping—Li Gang/Xinhua/Alamy Live News.

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About This Report

The authors provide a detailed analysis of the factors and components associated with People's Republic of China leaders' assessments of the Chinese People's Liberation Army's military strength and the implications of these assessments for the U.S.-China military balance.

The research reported here was completed in December 2021 and underwent security review with the sponsor and the Defense Office of Prepublication and Security Review before public release.

RAND National Security Research Division

This research was sponsored by the Office of the Secretary of Defense's (OSD's) Office of Cost Assessment and Program Evaluation (CAPE) and conducted within the International Security and Defense Policy Program of the RAND National Security Research Division (NSRD), which operates the National Defense Research Institute (NDRI), a federally funded research and development center sponsored by the Office of the Secretary of Defense, the Joint Staff, the Unified Combatant Commands, the Navy, the Marine Corps, the defense agencies, and the defense intelligence enterprise.

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Acknowledgments

We would like to express our gratitude to several people who assisted in this study from conception to its preparation as a published research report. LTC Russ Edmiston and later Graham Hulsey were our go-to contacts at OSD CAPE and tirelessly supported the project. We would also like to thank Jeff Grobman, Andrew Mara, Brandeanna Allen, and Garrett Summers, also from OSD CAPE, for their roles in initiating, shaping, and/or supporting the project at various stages. Dan Taylor and Dan Jones of the Department

of Defense generously provided their time and comments on our early findings. We would like to thank Cortez Cooper and Larry Harrison for carefully reviewing the report and providing valuable comments. Finally, we would like to thank Christine Wormuth, former director of RAND NSRD's International Security and Defense Policy Program, who had the initial vision for this project.

Summary

The People's Republic of China's (PRC's) and the People's Liberation Army's (PLA's) understanding of the military balance is fundamentally based on systems warfare concepts. From this viewpoint, modern warfare is a confrontation between opposing operational systems rather than between units, arms, services, and even platforms, as was the case in earlier eras. As the basis for its evaluation, systems concepts drive China's perceptions of the successes of its three-decade-old modernization drive and its identification of enduring or emerging weaknesses. Systems concepts—despite sharing some similarities to U.S. concepts, such as net-centric warfare—have, in large part, emerged from the PLA's long-standing Marxist-Leninist practice and understanding of military science.

Since at least the mid-1990s, how the PLA knows what it knows has been driven by its approach to analyzing and producing intensive lessons-learned studies from other states' wars. These studies are the basis for the PLA to recognize significant factors in the ever-changing and dynamic environment that is the current nature of warfare. This approach has led to the PLA's recognition and understanding of the current form of war being one of *informatization* and *intelligentization*, where battlefield dominance is achieved through information technology and networked forces, increasingly assisted by automation and artificial intelligence. Not surprisingly, the major patterns of warfare have changed from attrition-based warfare patterns carried out at the front to information firepower strikes and network-electronic integrated confrontation that occur throughout the battlefield or even globally. As a result, the importance of these studies cannot be overstated given that the understandings that the PLA derives from them in turn drive the creation of military strategy and doctrine, induce radical changes to the PLA organization, determine the design of training and exercises, and focus the PLA's pursuit of research and development.

Though PLA thinkers are interested in understanding the U.S. net assessment process, the PLA does not have an obvious analogue to evaluate the military balance. While it does not have such a process, the PLA's own self-assessment process is extremely comprehensive and arguably more broadly ranging than typical U.S. net assessments. For example, current

PLA self-assessments focus on four broad themes, two of which hardly, if ever, have been addressed in U.S. net assessments: political reliability and mobilization. Two others are somewhat more familiar: (1) fighting and winning wars and (2) leadership and command—but these also highlight the PLA's self-consciousness about its lack of any recent warfighting experience and concerns about potentially less-than-competent command human capital, aspects also not emphasized by U.S. net assessments.

Furthermore, unlike U.S. net assessments made by a single office or command and often accepted unevenly within the U.S. Department of Defense (DoD), PLA self-assessments are enterprise-wide assessments, made at all levels and acknowledged enterprise-wide. Even if detailed diagnoses are not publicly released, the high-level takeaways of these self-assessments are broadly disseminated and regularly repeated, from Xi Jinping's speeches and white papers at the top to PLA teaching materials and political work sessions at the bottom. Even if opaque to outside observers because of reliance on shorthand phrases—such as the “Two Incompatibles” (i.e., current PLA capabilities do not meet the requirements of modern warfare or modern nonwar operations) or the “Five Incapables” (i.e., widespread inability of PLA operational commanders to make accurate judgments, understand higher-level intent, make operational decisions, deploy troops, and deal with unexpected situations)—these critiques are reliable bellwethers for a system that is constantly undergoing critical self-examination, providing a rich and unique window into how the PLA thinks about its own progress.

Importantly, these self-assessments drive the PRC to very different views of risk in regard to potential great power conflict, namely over the status of Taiwan. From the PRC's perspective, such a conflict, if it were to come to pass, might imperil Xi's “China Dream,” or worse, undermine the Chinese Communist Party's rule over China. As a result, a situation may exist, at least for the immediate future, where both sides, through different evaluation processes (i.e., military balance-based net assessments and comprehensive self-evaluations), have concluded that war with the other has the potential to be extremely risky from an escalation standpoint, protracted and therefore costly in lives and treasure, and fatally harmful to long-term credibility and/or strategic goals.

This analysis is one of the first to detail the important issue of how the PLA understands and assesses military balance. It is focused on the stra-

tegic and operational levels of war and is broadly aimed across the entire PLA rather than at specific weapon systems or capabilities. Many of the areas examined within this report are merely samples of a broader, as yet under-explored literature. These assessments are also mostly qualitative in nature because PLA system-wide aspects, such as political reliability and command competence, are difficult to measure quantitatively. Furthermore, this research does not independently assess the PLA's self-assessments for validity or DoD concurrence. Yet because the PLA states and restates these self-assessments in numerous fora at numerous levels, they are important because the PLA believes that they are important. Should clear gaps between PLA statements and known realities exist, these will be highlighted in the text or footnotes.

The PLA sees itself as the weaker side in the overall military balance, largely because it has made only limited progress in those key areas that will define future warfare, most importantly informatization and system-of-systems-based operations. China's political and military leaders do recognize the qualitative and quantitative improvements in the PLA's weapon systems and technology; however, in many areas that are essential to conducting systems confrontation and systems destruction warfare, there remain significant gaps that have received the attention of Xi Jinping himself. During Xi's tenure, in which the PRC has adopted a new set of *Military Strategic Guidelines* and undergone one of the largest military reorganization and reform efforts since the end of the Mao era, the PLA has been forced to confront a range of problems that go well beyond technological modernization, force structure, and organizational relationships. At Xi's direction and prompting, the PLA has been forced to confront a range of deep systemic issues, such as the PLA's reliability, its commanders' ability to plan and lead, its overall level of operational proficiency, and its ability to mobilize and deploy forces. In addressing these issues, the PLA has had to confront a range of issues in its organizational culture. Necessary improvements have not materialized quickly and will likely take time because of the PLA's organizational culture and the improvements' systemic complexity, which particularly affects the PLA's capabilities relative to its primary benchmark—the U.S. military.

A refined understanding of Beijing's view of the PLA also has significant implications for U.S. policymakers, military commanders, and plan-

ners. Most importantly, Xi's view of PLA problems and weaknesses suggests that, in many scenarios, these reservations will likely temper his willingness to resort to force given the risk involved. While it is clear that Beijing has increased confidence in the PLA relative to the force that existed in years past, the areas that Xi and others have highlighted present core challenges to the PLA's ability to fight in the types of future wars its strategists envision. A similar implication relates to the PRC's views of its own deterrent. Although deterrence is not a core theme of this report, concerns about the PLA's operational readiness are likely to reduce Beijing's confidence in its overall deterrent posture.

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Introduction

Roughly 11 months after the Soviet army's exit from Afghanistan and four months after the process of political liberalization began in East Germany and spread to other Warsaw Pact nations, the Joint Chiefs of Staff (JCS) published its *1990 Joint Military Net Assessment* (JMNA)—the last military net assessment produced before the Soviet Union dissolved in December 1991.¹ The document—a requirement outlined in the National Defense Authorization Act (NDAA) for fiscal year (FY) 1989—presented a “net assessment of the capability of U.S. forces, assisted by allies where appropriate, to deter war” and, in case deterrence failed, an assessment of the U.S. military's capability to “terminate the conflict on terms favorable to the United States.”² Structurally, the NDAA stated that the report should provide (1) a comparison between U.S. and allied capabilities and those of potential adversaries, (2) an examination of trends, (3) an overall assessment of the defense capabilities and programs of the U.S. armed forces, and (4) an assessment of capability deficiencies in the U.S. armed forces.³

The 1990 JMNA overwhelmingly focused its analysis on the Soviet Union and Warsaw Pact. Although it provided an overview of global trends confronting U.S. leaders, including a short paragraph highlighting “a range of interests in the Third World” and “enduring problems” such as debt, terrorism, insurgencies, and drug trafficking, the analysis provided in the

¹ Joint Chiefs of Staff, *1990 Joint Military Net Assessment*, January 20, 1990. The cited version is an unclassified version. The classified version was delivered to the Secretary of Defense on March 6, 1990 (Executive Summary, ES-1).

² Joint Chiefs of Staff, 1990, p. I-2.

³ Joint Chiefs of Staff, 1990, pp. I-1–I.2.

assessment was focused nearly exclusively on concerns central to Cold War strategy and planning.⁴ Indeed, there were two different alert scenarios.⁵ In one scenario, the United States did not receive sufficient warning to generate its forces. In the other scenario, on the other hand, it was assumed that both sides fully generated their forces and considered potential attrition of strategic nuclear forces by conventional warfare preceding a nuclear exchange.⁶ Accordingly, the assessment was based on intelligence estimates and military analysis of near-term force projections.

The JCS assessment concluded that the political dynamics in the Warsaw Pact and Soviet Union signaled a determination on the part of the political leadership in those countries to chart a fundamentally different course. These changes, according to the report, presented both opportunities and challenges. U.S. leaders were warned that there was also reason to be cautious because the “Soviet Union’s restructured military will be formidable” and that “despite their current problems, the Soviets are unlikely to significantly weaken their strategic position.”⁷ The report also highlighted that the Soviet Union would remain the only country capable of inflicting large-scale nuclear destruction on the United States. Its leaders would continue programs to modernize the Soviet Union’s existing strategic systems.

Within two years of the JMNA’s publication, the Soviet Union ceased to exist. Its successor state, Russia, would have its strategic nuclear forces spread among multiple new states, its population cut nearly in half, and key elements of its defense industries spread among multiple new nations. Furthermore, Russian leaders would be absorbed by the subsequent political and economic turmoil. Russia would not modernize its strategic nuclear forces in the 1990s, and its conventional forces almost overnight would become a shadow of the Soviet military. In 1991, the United States would lead an international coalition against Iraq. Its military operations would become the baseline against which major powers, namely Russia and China, would measure themselves for the next three decades. Russia, on the other

⁴ Joint Chiefs of Staff, 1990, pp. III-3–III-4.

⁵ Joint Chiefs of Staff, 1990, p. VI-1.

⁶ Joint Chiefs of Staff, 1990, p. VI-1.

⁷ Joint Chiefs of Staff, 1990, p. ES-3.

hand, would find itself embroiled in the first Chechen War and peacekeeping operations in former Soviet states—most notably Moldova and Tajikistan. The flaws in the Russian and, by extension, Soviet military systems would become apparent to the world as Russian forces were bogged down against a low-tech, poorly equipped, but highly motivated Chechen adversary. The 1990s would see the United States become the world's sole superpower. Russia's relative power would plummet as its leaders were consumed with both internal and external problems stemming from the Soviet Union's demise.

This brief examination of the *1990 Joint Military Net Assessment* is not meant to point out the specific assessments that the JMNA “got wrong” or highlight the challenges in producing these types of assessments amid major systemic change. Thirty years of hindsight can make uncertain or unforeseeable events seem obvious. This brief introduction does, however, raise a critical question that should have been raised at the time and considered in the report—if Soviet political leaders, military officers, or the Soviet General Staff had been tasked with writing the same report, would it have provided a different view of the Soviet military's future? If those officers could have provided forthright analysis and delivered it without fear of retribution, their assessment almost certainly would have provided a much more pessimistic projection based on the Soviet army's recently concluded experiences in Afghanistan, the poor state of Soviet military equipment, and the horrendous conditions that Soviet military personnel faced on a daily basis. In all probability, a comparison between the U.S. JMNA and the Soviet JMNA would have presented stark contrasts in how each viewed the other and their prospects over the coming decade.

Joint Military Net Assessment and Major Power Competition

The JMNA, although dormant for several years after 1990, has once again become a tool used by the Pentagon as part of the Joint Strategic Planning System (JSPS). This assessment is an annual requirement that “serves as the capstone Joint Staff assessment product on comprehensive joint readiness”

and “synthesizes other Joint Strategic Planning System assessments.”⁸ More specifically, the JMNA is an “annual integrated assessment of the Joint Force’s ability to execute the National Military Strategy.”⁹ It provides an overview of the Joint Force’s readiness as measured against selected adversaries over a five-year window. The JMNA also identifies and analyzes selected elements of the current and future military competition and presents options for the Chairman of the Joint Chiefs of Staff (CJCS) to address critical gaps. In turn, the options outlined in the JMNA directly inform the Chairman’s Program Recommendation (CPR), which also serves as the Chairman’s input into the Defense Planning Guidance (DPG).

In similar fashion to the 1990 JMNA, current JMNAs are synthetic products that bring together data, projections, and capabilities assessments from across the U.S. Department of Defense (DoD) and the intelligence community. They use findings from both qualitative and quantitative studies, such as intelligence community estimates and assessments, modeling, and wargames. The net assessment process within DoD emerged out of a need to examine the interaction between U.S. defense policies and opponents’ likely reactions over a long-term time horizon.¹⁰ Its primary objective is to consider a wide range of factors beyond orders of battle and technical characteristics to include organizational, social, economic, and bureaucratic factors that shape military readiness and competition. The key distinguishing factors that set a net assessment apart from other types of assessments are its “two-sided comparative evaluation of the balance of strengths” between competing nations or groups of nations and its focus on identifying trends and “diagnosis of complex relationships to understand their . . . interactions over the long term.”¹¹

⁸ Chairman of the Joint Chiefs of Staff Instruction 3100.01D, *Joint Strategic Planning System*, Washington, D.C.: Joint Chiefs of Staff, July 20, 2018, p. D-2.

⁹ Chairman of the Joint Chiefs of Staff Instruction 3100.01D, 2018, p. D-2.

¹⁰ Paul Bracken, “Net Assessment: A Practical Guide,” *Parameters*, Vol. 36, No. 1, Spring 2006, p. 92.

¹¹ Institute for Defense Analyses, *Net Assessment: The Concept, Its Development, and Its Future*, Symposium report presented at the Institute for Defense Analyses, May 22, 1990, p. 5.

Major power competition has once again become a central element of the U.S. National Defense Strategy, raising the importance of military net assessment, particularly in its role in the JSPS.¹² The 1990 JMNA focused almost exclusively on the Soviet Union and only briefly discussed other regional threats and scenarios; today's military net assessment, by necessity, has a much wider range of threats to consider according to defense priorities since the end of the Cold War—most notably China, Russia, Iran, North Korea, and host of unconventional threats. The most glaring shortcoming in the 1990 document was its failure to address or acknowledge the state of the Soviet military from the standpoint of how Soviet political and military leaders would have viewed it. In the end, that JMNA grossly overestimated critical components of its benchmark threat, such as the Soviet military's conventional military strength, along with its reliability and social cohesion. As a result, the JMNA did not offer any insights that addressed the implications that a failed Soviet Union would have on U.S. military posture over the following decade.¹³ The United States military and its coalition partners, by contrast, were agile and capable enough in the final stages of the Cold War to deploy to the Persian Gulf and assemble a massive coalition to reverse Iraq's invasion of Kuwait—a scenario in which Iraq's leadership played directly into U.S. military strengths by fighting the type of war for which the United States had structured and prepared itself over the previous decade. As Russia's military deteriorated in the 1990s, the U.S. military demonstrated its capability in multiple theaters.

While the problems of either overestimating or underestimating an adversary are important questions when considering the relevance and quality of assessments like the JMNA, this report does not address those questions. Instead, it presents the 1990 JMNA's most notable lesson—the importance of accurately reflecting an adversary's perspective on the mil-

¹² DoD, *Summary of the 2018 National Defense Strategy of the United States of America*, Washington, D.C., 2018; Joint Chiefs of Staff, *Description of the National Military Strategy 2018*, Washington, D.C., 2018.

¹³ Although the JMNA did address at length the issue of Soviet nuclear capabilities, Russian strategists later in the decade would identify Russia's overreliance on nuclear weapons and inadequate conventional capabilities as significant shortfalls in Russia's overall deterrent posture and contributing factors to instability in the international security environment.

itary balance—as the backdrop for understanding the United States’ primary current competitor, China. More specifically, this report will describe how China’s political and military leaders view the military balance today and how these assessments may influence their strategic calculations and willingness to accept risk in a potential conflict with the United States and its allies.

China’s Recent History of Military Net Assessment

In the decade preceding Operation Desert Storm, the People’s Liberation Army (PLA) understood that the conditions guiding modern warfare had changed. From a People’s Republic of China (PRC) institutional perspective, the potential for large-scale conflict largely had subsided as the threat of major war between the United States and the Soviet Union diminished. Many Chinese analysts viewed conflict involving the PRC and either of these powers as increasingly unlikely. In fact, the Central Military Commission (CMC) enacted a new military strategic guideline in 1988 that oriented PLA planning and programs for “local wars and military conflicts.”¹⁴ Under these conditions, PLA leaders recognized that agile, flexible forces with rapid reaction capability would become core requirements for future military operations.¹⁵

The markers of reform and modernization became visible on many fronts. The PLA’s budget received a 15.2-percent increase in 1989, the first increase in military spending in almost ten years.¹⁶ PLA publications began to discuss the importance of logistics, high-tech weapons, and elite forces capable of responding to China’s security needs across a spectrum of potential local wars. PLA military science and professional military education institutions also found new life as China’s military leaders attempted to develop the PLA officer corps’ professional competency while

¹⁴ M. Taylor Fravel, “Shifts in Warfare and Party Unity: Explaining China’s Changes in Military Strategy,” *International Security*, Vol. 42, No. 3, January 1, 2018, p. 72.

¹⁵ Harlan W. Jencks, “Chinese Evaluations of ‘Desert Storm’: Implications for PRC Security,” *Journal of East Asian Affairs*, Vol. 6, No. 2, Summer/Fall 1992, p. 449.

¹⁶ Jencks, 1992, p. 450.

also seeking to establish a cadre of professional noncommissioned officers (NCOs). Revamped training and experimental group armies signified the PLA's intent to transform itself into a modern force by enhancing its combined arms capabilities. These activities—accompanied by three rounds of downsizing between 1980 and 1985 that cut the PLA by roughly 2.8 million soldiers—marked initial steps toward a leaner, more capable PLA ready for contemporary warfare.¹⁷

Only three years after the PLA published its new *Military Strategic Guidelines* and one year after the 1990 JMNA was published, China's military officers watched political and military developments in the Middle East closely, including the U.S. deployment and preparations for military operations. In the midst of these developments in PLA strategic and operational thought, several Chinese publications—including official PLA press—reported regularly to Chinese audiences on events in the Middle East following Iraq's invasion of Kuwait. At no time was the Chinese analysis disinterested or unbiased. On the contrary, Chinese media were sympathetic to the Iraqi cause and suspicious of U.S. and coalition intent. Furthermore, the PLA had established ties with the Iraqi military through its arms sales programs in the 1980s, which represented a major element of China's foreign policy in the Middle East during that decade.¹⁸ As Chinese observers attempted to analyze the relative strengths and weaknesses of the two antagonists, it became clear that they respected the United States' advanced technologies and array of modern systems. Regardless, they predicted difficulties for the U.S. military due to the Middle East's harsh environment, a lack of recent U.S. war experience against a major adversary, and the perception of widespread public opposition to the war in the United States.¹⁹

Chinese analysts viewed Iraq's military as a disciplined and well-equipped force with a significant geographic advantage. Despite the United States' overwhelming superiority in both air and naval power, PLA analysts argued that Iraq's battle-tested ground forces would present a formidable

¹⁷ Fravel, 2018, p. 67.

¹⁸ Yitzhak Shichor, "China and the Middle East Since Tiananmen," *Annals of the American Academy of Political and Social Science*, Vol. 519, 1992, pp. 98–99.

¹⁹ Zhuang Hanlong, "Are Weather, Geographical and Human Factors on the U.S. Side? My Humble View of the Battlefields in the Gulf," *PLA Daily*, December 17, 1990b, p. 3.

barrier.²⁰ In addition, some reports argued that Iraq would have a significant logistical advantage. The main theater of operations was accessible to Iraq's forces, and they would be fighting near their key supply nodes. This would be a crucial factor in light of the high consumption rates of weapons, fuel, and other critical supplies required for local wars. In particular, one report highlighted the prohibitive expenses associated with moving and sustaining a relatively small force in Saudi Arabia, estimating that to sustain 50,000 troops for one month would cost a total of \$440 million U.S. dollars (USD).²¹ For these PLA observers, the ground force imbalance coupled with the significant sustainment costs presented a formidable task that "no military strategist would fail to ponder."²²

The open skepticism voiced by many Chinese observers was operationally focused on the United States' perceived overreliance on airpower. As several observers noted, an advantage in air and naval capabilities was unlikely to translate into operational success. Ground forces would be the most relevant factor as the United States attempted to dislodge Iraqi forces from Kuwait. Looking at the balance of ground forces, several Chinese publications highlighted Iraq's advantages.²³ A general theme that emerged was that airpower alone would not be sufficient for victory. Indeed, shortly before the air campaign commenced, one official PLA publication viewed the buildup underway during Desert Shield as a large-scale example of "operational-level deterrence."²⁴ The apparent reliance on "operational-level deterrence" signaled to some Chinese observers the United States' reticence and overall desire to avoid a ground conflict with Iraq's large, seasoned army. The United States' buildup was cast as "prudent and apprehensive"

²⁰ Zhuang Hanlong, "Preliminary Analysis of U.S. and Iraqi Military Muscle," *PLA Daily*, August 27, 1990a, p. 3.

²¹ Zhuang Hanlong, 1990a, p. 3.

²² Zhuang Hanlong, 1990a, p. 3.

²³ Jencks, 1992, p. 455.

²⁴ Jia Weidong, "The Spectacular 'Deterrent on a Campaign Scale,'" *PLA Daily*, January 18, 1991.

about the risk of a messy, prolonged ground war.²⁵ If Iraq could force a protracted battle with high casualties, these same Chinese observers considered it likely that U.S. leaders would be forced to negotiate a political resolution on terms favorable to Iraq—providing Iraq with a moral victory and the United States with a humbling defeat.²⁶

A primary driver behind the United States' apparent apprehension, as discussed in Chinese publications, was a political leadership rife with division and fearful of casualties. Ultimately, these concerns were cast as "human factors" considerations and chalked up as an overall advantage for Iraq. In different cases, Chinese examination of these divisions highlighted the roughly 25 percent of the U.S. population that did not support going to war. It was also pointed out that several prominent foreign policy figures, including Caspar Weinberger and Henry Kissinger, had voiced caution about the United States' effort.²⁷ The excessive cost of operations, harsh environmental conditions, and fear of casualties also factored heavily in the Chinese evaluation of "human factors" deficiencies. The choice of "operational-level deterrence" as a strategy was proof for Chinese analysts that the United States—despite its recent successes against weak actors like Grenada, Libya, and Panama—might not have a stomach for a war with Iraq.

Once hostilities began, Chinese media views of U.S. operations changed radically, vacillating between wonder and skepticism. Observers remarked on the United States' many technological advantages, including command and control (C2) and night operations, but, at the same time, many publications questioned the effectiveness of air strikes and implied that the United States did not have the stomach for a ground war.²⁸ As the coalition air campaign continued, Chinese coverage of the conflict decreased and much of the subsequent coverage was devoted to the war's impact on international affairs and potential political settlements.

²⁵ Guan Youxun, "A Look at How the U.S.-Iraq Air Battle Will Fare," *PLA Daily*, January 18, 1991.

²⁶ Jencks, 1992, p. 455.

²⁷ Zhuang Hanlong, 1990b, p. 3.

²⁸ Jencks, 1992, pp. 458–459.

Ultimately, the new way of war that PLA leaders witnessed in 1991 led to major changes in PRC military strategy and shaped modernization efforts to the present day. PLA observers were surprised by the radical changes in military technology and operations demonstrated in Operation Desert Storm. Likewise, they failed to account for the many institutional and operational developments that the American military had undertaken over the previous two decades, including the impact of the Goldwater-Nichols Act, major improvements in training across all services, and the development of operational concepts—such as AirLand Battle—that would prove critical to U.S. success in Iraq. As with the JCS JMNA produced a year earlier, those PLA officers involved in these assessments failed to understand the major changes that had taken place in the U.S. military and fundamentally shaped the post-Cold War military environment. Likewise, these same PLA officers failed to grasp the systemic problems that plagued Iraq, including the degraded psychological state and the state of morale of its military.

Purpose

Over the past two decades, Western analysts have witnessed a significant improvement in the PLA's overall capabilities. The PLA's modernization programs have not only shifted the general balance of forces in the Taiwan Strait but also put the PLA on a trajectory for a much broader array of missions beyond the PRC's traditional regional security focus. Many of the PLA's most significant modernization programs and capability improvements have been driven by its lessons learned from U.S. and allied operations since Operation Desert Storm and the CMC's subsequent 1993 *Military Strategic Guidelines for the New Era* that emerged from a comprehensive study of these operations.²⁹ U.S. joint, network-enabled, precision strike warfare set the standard by which the PLA measures its ability to fight and win "informatized local wars"—a term that reflects the most significant change captured by the CMC's 2004 modification to its 1993 military strate-

²⁹ The research team did not have access to this publication. It is referenced by the Chinese—several sources cited in this report refer to it—so that we know that it exists, but it is not publicly available.

gic guidelines. These lessons from U.S. operations triggered several reforms that continue to shape the PLA's organization, training, operational planning, and personnel systems, among many other areas.

These same lessons and observations also prompted the PLA to adopt a range of new operational concepts that its leaders view as imperative for future informatized wars. The PLA had previously relied on large numbers of low-tech systems with limited range and mobility, command and organizational hierarchies based on service lines and prerogatives, and an inefficient attrition-based model of warfare. In the mid-1990s, PRC leaders recognized that without a systemic rethinking of how the PLA would operate in the future, China's military could be outmatched by the United States much as the Serbs had been in 1999 and the Iraqis were in Operations Desert Storm and Iraqi Freedom. The PLA's drive to improve automated command systems, operational experimentation, training and education, and integrated joint operations all provide indications that the PLA is attempting to enhance its organizational structure, personnel, and operational concepts, as well as its hardware and technology.

The PRC's military modernization program, particularly the pace of technological advancement and the wide range of new PLA capabilities, raises U.S. concerns about the PLA's capabilities to challenge the United States military across all domains; however, the PLA routinely discusses persistent difficulties in areas such as training, leadership, and operational employment. In recent years, the PLA has been focused on addressing Xi Jinping's directions to "fight and win wars" by preparing for military struggle—an effort that involves improving training, building capability and capacity for joint operations, and developing the PLA's system-of-systems warfighting architecture.³⁰

Galvanized by the PRC's extensive military modernization coupled with more assertive and aggressive behavior in a range of areas, the United States

³⁰ State Council Information Office, *China's Military Strategy*, Beijing, May 2015. The PLA defines *system-of-systems warfare* as a confrontation between opposing operational systems with the ultimate objective being the destruction or degradation of the enemy's systems and the protection of one's own. This is a contrast to earlier attrition-based models of warfare in which victory was achieved through operations conducted at the front and focused on confrontations between opposing services, branches, arms, or even platforms.

now characterizes China as a strategic competitor in both the National Security Strategy and National Defense Strategy.³¹ Senior leaders in DoD have directed a range of activities to help DoD better understand the nature of this competition and its implications for the U.S. military.³² In July 2018, the CJCS issued an instruction directing the Joint Staff to undertake another JMNA—the first such report since 1990—which is now “an annual integrated assessment of the Joint Force’s ability to execute the National Military Strategy” that examines U.S. military capabilities and readiness and compares “competitive trajectories” against “selected adversaries” over a five-year period.³³

Given the importance of developing an accurate understanding of the U.S.-China military balance, this research project provides an initial examination of the PRC’s views of the military balance and the key elements shaping Beijing’s perspectives. The team relies on PRC assessments, concepts, and evaluation criteria to the widest extent possible and where sources are available. It does not appear that the PRC has a net assessment process at this time, and the research team has not identified any references to existing PLA net assessments, although, according to available sources, the PLA has been studying U.S. net assessment processes and methods with the goal of developing one. This study presents an approximation of what a “red” net assessment output might look like if it employed Chinese standards and assessment methods.

This report describes the PRC’s view of the military balance. Its conclusions are drawn from a detailed exploration of what PRC leaders and commanders have observed from U.S. military operations and how those observations have been translated into action over the past three decades. Likewise, the authors will identify those areas in which China’s senior leaders have seen progress, as well as those where they have called for further reform. Our goal for this study is to fill a critical and recurring gap in U.S.

³¹ White House, *National Security Strategy of the United States of America*, Washington, D.C., December 2017; DoD, 2018, p. 14.

³² Aaron Mehta, “Biden Announces New Pentagon-Run China Task Force,” *Defense News*, February 10, 2021; Michael R. Gordon, “Pentagon to Speed Up Efforts to Counter China,” *Wall Street Journal*, June 9, 2021.

³³ Chairman of the Joint Chiefs of Staff Instruction 3100.01D, 2018.

military net assessments that speaks to how much confidence Chinese political and military leaders have in the PLA today.

Our research does not suggest that the Chinese view of its capabilities is “more correct” than others, particularly U.S. estimates. U.S. assessments about Iraq’s military strength prior to Desert Storm demonstrate that nations have, at times, overestimated their enemies and underestimated their own capabilities.³⁴ Likewise, this report does not include an alternative net assessment or even a one-sided PLA capability assessment. The PLA’s analysis prior to operation Desert Storm and its subsequent assessments of international reactions to PLA activities make clear that Chinese observers are also capable of misreading international military and political developments.

The primary objective in our examination of the PRC’s views of the military balance is to understand how confident China’s leaders are in the PLA at this stage in its development, what areas they see as critical development priorities, and, based on these assessments, the level of risk they might be willing to accept if they were faced with a decision on going to war with the United States. What is most valuable about these PRC assessments are the “insider’s” perspective of how capabilities development programs have progressed, what impediments have limited success, what bureaucratic and cultural hurdles remain, and the challenges that social, political, and economic factors outside of the PLA’s control present to its modernization efforts. The PLA officers and researchers most directly involved with these efforts and their senior political leaders who will ultimately make decisions on war and peace provide invaluable insights that go beyond orders of battle, inventories, and technical characteristics of weapon systems and platforms. The 1990 JMNA should serve as a cautionary example. A large military with modern equipment is only as strong as the national system in which it resides and its human resources. The PRC’s political and military leadership is acutely aware of these issues based on its three decades of studying the Soviet Union’s failure and American political and military success.

³⁴ DoD, *Conduct of the Persian Gulf War: Final Report to Congress*, Washington, D.C., 1992; Juan O. Tamayo, “Along with Debris, War Leaves Questions About Overestimation of Iraqi Might,” *Baltimore Sun*, March 12, 1991.

In addition to what the authors of this report intended to accomplish, it is also important to understand what they did not. This report is not intended to provide an alternative analysis or alternate perspective to existing assessments and reports, including the current and previous JMNAs. It is also not a report on PLA weaknesses. This research was designed to identify PLA views on its own capabilities—both strengths and weaknesses—and how the PLA believes it compares with U.S. armed forces. Similarly, we did not attempt to adjudicate whether existing Chinese perceptions are “correct” or “incorrect.” The PLA assessments outlined in this report and our methodology for deriving conclusions are based to the largest extent possible on the frameworks, methods, and perspectives that Chinese party officials and organs, military science researchers, scientists, and commanders put forth in selected publications and official statements. Ultimately, this report is designed to address what China’s political and military leaders see in terms of the military balance, regardless of how those views differ from outside perspectives. Finally, this report is not a true net assessment or military capabilities assessment. The research team relied on the PLA’s assessments of its own capabilities and did not attempt to provide additional analysis related to the quality and effectiveness of PLA weapon systems, units, or exercises. Likewise, the research team did not perform a net assessment that weighs both “red” and “blue” capabilities, strengths, and weaknesses.

Research Approach

Given our purpose in developing this report—to understand the PLA’s view of the U.S.-China military balance—our research approach can be broken down into two key components. The first component deals with our selection and use of sources, and the second addresses how we decided on criteria for evaluating the PLA’s assessment of the balance.

Organizing Principles

Our research approach is grounded in two commonly accepted assessments and an assumption that served as organizing principles guiding how we interpreted relevant sources. The first commonly accepted assessment was that the PLA has studied the U.S. military and its operations extensively and

has developed its capabilities according to these lessons—adapting some features for their own use and devising ways to defeat what they saw as critical capabilities and enablers for U.S. operations.³⁵ The second commonly accepted assessment is that the PLA has a rigorous, structured system for observing U.S. and global military developments, distilling them into usable lessons, developing concepts of operations (CONOPs) from those lessons, and then popularizing practices across the PLA.³⁶ In essence, the PLA has a rational process for determining the technologies, capabilities, and organizational forms it requires and, according to that process, integrates them into its operational concepts.

The final organizing principle for our research is less of an accepted assessment than it is an assumption—namely, that the PLA’s progress shapes Chinese leadership thinking regarding risk calculations and its decisions to use force. While this is a reasonable conclusion, the first two principles are based on an extensive body of evidence spread over three decades that includes in-depth studies, exercises, experiments, and equipment development, among other activities. Our assumption regarding the extent to which PLA capabilities influence Chinese Communist Party (CCP) risk calculations is derived from a very limited set of examples and cases, many of which actually do not involve the use of force but rather attempts to coerce and influence other nations through the *threat* of military force. These actions potentially could lead to confrontation and conflict; however, PRC leaders have pursued them to stay below the threshold that they think might provoke a U.S. response. For this reason, we highlight this PLA-CCP relationship as an *assumption*.

³⁵ Andrew Scobell, David Lai, and Roy Kamphausen, eds., *Chinese Lessons from Other Peoples’ Wars*, Carlisle, Pa.: Strategic Studies Institute, U.S. Army War College, 2011; Michèle A. Flournoy, “How to Prevent a War in Asia: The Erosion of American Deterrence Raises the Risk of Chinese Miscalculation,” *Foreign Affairs*, June 18, 2020.

³⁶ Bu Xianjin and Zhang Dequn, *Lectures on the Science of Operational Experimentation*, Beijing: Military Science Press, 2013; Jiang Yamin, “On Warfighting Experimentation,” *China Military Science*, August 1, 2013.

Sources

Informed by these guiding principles, our research relies predominantly on Chinese publications focused on military science and technical research, as well as official documents and statements made by senior party and military leaders. Within this body of sources, we focused most heavily on diagnostic publications and military press as a means for examining what the PLA tells itself. As a body of evidence, these publications provide a long-term perspective that allowed the team to identify important issues that shaped PLA institutional thinking over a broad time span. Diagnostic publications, treated individually, frequently provide discussion and analysis on how a particular operational or conceptual issue emerged, the problems associated with it over time, and potential solutions. At times, these publications also provide value based on their association with specific research programs or the authors' roles in other important research efforts. For example, several of the authors who played a leading role in shaping PLA systems warfare concepts were also critical to developing the PLA's joint operations doctrine roughly two decades ago.³⁷

When treated as a consolidated body of PLA research, these diagnostic publications—primarily published by researchers from PRC professional military education and military research organs such as the PLA's National Defense University (NDU) and the Academy of Military Sciences (AMS)—allowed our researchers to examine how PLA understanding of a particular issue and its solutions evolved over time based on new developments in the international system or changes in the character of war. This element of our research demonstrates that although in many cases PLA perceptions of

³⁷ For example, Dong Lianshan and Wong Yongnan have conducted research on multiple efforts related to joint operations and informatization. Dong Lianshan, the editor of *Target-Centric Warfare: The Path to Achieving Victory in Future Warfare*, Beijing: National Defense University Press, 2015, was a contributor to the 2006 edition of *Science of Campaigns* (Wang Houqing and Zhang Xingye, *Science of Campaigns*, Beijing: National Defense University Press, 2000)—an authoritative PLA text on the operational level of war. Similarly, Wang Yongnan, author of *Exploring the Essentials of Gaining Victory in System Warfare*, Beijing: National Defense University Press, 2015, was also a key contributor to *A Study of the Informatization System of the Armed Forces*, a 2010 study that captured PLA experimentation on joint operations and informatization conducted during the 11th Five Year Plan. (This is another document we do not have in our collection but know about from other published sources.)

technology, domain access, and relative national power evolved as PRC and PLA capacity improved, several political and historical factors continue to shape PRC political and military leaders' thinking about war and the use of force. In addition, despite the PLA's continued development and progress several studies and publications remain foundational and are routinely referenced in newer PLA studies that tackle current problems. As a body of work indebted to Marxist philosophy and ideology, newer studies build on previous ones in what PLA researchers describe as a dialectical process.³⁸ Furthermore, during visits to the PLA's NDU and AMS, Xi highlighted the importance of these institutions and their work in developing new concepts of operation, aiding the PLA to define the changing operational environment, and developing talented future leaders.³⁹ For this reason, older studies may lose some currency as the international environment and technology change; however, they are still capable of providing valuable insight into how the PLA thinks about preparing for current and future conflicts and the necessary elements it must include in those preparations.

Our research also relied heavily on PLA military press and official statements, including official transcripts of Party meetings, high-level speeches, military region and service newspapers, and military science journals. This body of sources provided a long-term perspective on how the PLA identified problems, treated them initially, and then attempted to identify solutions. Likewise, official press sources—for example, *People's Liberation Army Daily (PLA Daily)*—are the core propaganda means by which CCP and PLA leadership highlight priorities and reinforce key messages within the

³⁸ For one early publication that examines these relationships between current issues and foundational studies, see Ma Jinsheng, *A Focus on the Prominent Issues in Military Theory*, Beijing: Military Science Press, 2001.

³⁹ Li Xuanliang and Wang Yitao, "When Inspecting the Academy of Military Science, Xi Jinping Stresses the Need to Work Hard to Build High-Level Military Scientific Research Institutions to Provide Strong Support for Realizing the Party's Goal of Strengthening the Armed Forces in the New Era," Xinhua, May 16, 2018; Li Xuanliang and Wang Yitao, "When Inspecting the PLA National Defense University, Xi Jinping Stresses the Need to Focus on Achieving the Goal of Strengthening the Military Forces, Push Forward Reform and Innovation at Military Academies, and Provide Talented Personnel and Intellectual Support for the Achievement of the Chinese Dream and the Dream of Strengthening the Military Forces," Xinhua, March 23, 2016.

PLA.⁴⁰ The most significant input that these sources have had to findings has been related to the PLA's views on its ability to adapt to change, whether externally or internally driven. More specifically, the sources that we relied on in this category provided several insights into how the PLA addressed reform, high-priority development areas (e.g., personnel quality, training), the emergence of new technologies, and the development of new operational concepts. These sources also contained a broad body of critiques about the PLA's progress and remaining challenges, in terms of both specific issues and enduring systemic struggles.

The secondary, non-Chinese sources that we used in our research fell into two categories. The first category included studies by Western experts on PLA thoughts regarding its strengths, weaknesses, and critical needs. Although these were secondary sources, we relied on them because of their use of Chinese publications. The second category of sources is more diverse and was used to inform our findings on historical themes, current views of Western scholars on the PLA, and Chinese leadership risk assessments. Within this body of sources, our team relied on a wide range of academic literature, policy statements, and current media reporting.

One of the research team's primary concerns was finding authoritative, informed sources, as opposed to casual observers and externally focused messaging and propaganda. Although these latter varieties of media might be able to offer insight into how the PLA views the military balance, their arguments and assertions frequently are difficult to validate. Similarly, these sources are routinely designed to influence and shape foreign audiences' perceptions. In keeping with the accepted assessment that the PLA is a learning organization, we were determined to ensure that the sources we relied on for this research were official PRC or internal PLA sources (or based on internal PLA sources) designed to observe, diagnose, and inform PLA audiences. Ultimately, our research relied far more heavily on what the PLA tells itself than on what it tells the outside world.

⁴⁰ Cao Zhi, Luan Jianqiang, and Li Yiliang, "Xi Jinping Stresses When Inspecting PLA Daily Headquarters: Adhere to Principle That Army Newspaper Belongs to Party, Persist in Being Centered on Strengthening Army, Persist in Placing Great Importance on Innovation to Provide Ideological and Public Opinion Support for Realizing Chinese Dream and Dream of Strong Army," *PLA Daily*, December 26, 2015.

Research Emphasis and Criteria Selection

This study's goal of building an understanding of how China's military and political leaders see the U.S.-China military balance focused our research on several issues that align with the three guiding principles discussed in the previous section. Acting on our understanding that the PLA had studied the U.S. way of war and recent operations closely, the research team studied PLA lessons learned, diagnostic publications, and education and teaching materials used in PLA professional military education institutions. This portion of our research identified three key issues that, most likely, have a significant influence on PRC thinking about the military balance. The first issue is the type of future wars for which Beijing believes that the PLA must prepare itself, how those concerns reflect the PRC's historical experience in recent wars, and how they are translated into guidance for the PLA's preparation for military struggle. Our treatment of published PLA perceptions of future wars covered such issues as strategic objectives, general characteristics of modern warfare, technological developments, operational concepts and requirements, and broad scenarios based on likely geographic features and prominent domains. While many of these publications focused on a vast range of issues, our team identified themes that appeared to stand the test of time, particularly those from authoritative sources that were used routinely in PLA studies on developments in modern warfare.

The second issue that the research team addressed was the way in which these lessons were put to practical use in the PLA's organization, equipment and technology modernization, planning, and concept development. Mindful of the scope of this study, the team narrowed its treatment of key capabilities according to five criteria: (1) leadership priority and interest, (2) level of investment and dedicated resources, (3) urgency, (4) persistence, and (5) connection to specific lessons learned. The PLA's hierarchical, structured process for addressing institutional issues and implementing change provides a means for evaluating which capabilities the team focused on for this analysis. In several cases, the Chairman of the CMC has outlined priorities for the PLA. At times, these are cross-cutting systemic imperatives—such as Hu Jintao's directives on developing “information-systems-based system-of-systems warfare”—or more focused prerogatives, such as improving training and talent development. In each of these cases, our research identified a combination of senior-level policy statements, exploratory research

(sometimes tied to named or numbered research programs), concept development and experimentation, program development, and PLA-wide implementation of specific programs.

Our approach to addressing how PLA views of the military balance might influence its risk calculations had to be treated differently, owing to an almost complete silence on this topic in authoritative PLA sources. Accordingly, we considered the PLA's assessment of the military balance as one factor among many in assessing the risk of conflict and its consequences. Similarly, our treatment of how U.S. policymakers have thought about the likelihood of U.S. involvement in a conflict with China led part of our research team to conduct numerous interviews with former U.S. government officials and other American experts from academia and think tanks. Accordingly, we attempted to identify which themes in the risk calculations of both sides conform to or diverge from PRC leadership understanding of risk in a future conflict scenario. Ultimately, Chinese political leaders may not possess the same level of confidence in the PLA's relative capabilities as the PLA does, particularly when weighed against other long-term, strategic concerns surrounding conflict with another major power.

Framework

At its core, this report is designed to address a critical yet often overlooked element in understanding the U.S.-China military balance—that is, the Chinese perspective. It differs from most other works examining military balance issues in general and also many earlier military net assessments because it does not present a solely or predominantly quantitative comparison of force structure, equipment ratios, and postures. Instead, in this report, we frame our conclusions on China's view of the military balance according to those modernization issues that have been priorities for Chinese leaders and PLA perspectives on its progress over time. For this reason, our research places limited emphasis on military service-oriented comparisons, which frequently address issues of technology and weapon systems as opposed to leadership, operations, readiness, and proficiency.

Understanding What Shapes China's Thinking on Modernization

Where we were able, the research team relied on direct discussions from PLA leaders and researchers regarding priority initiatives and the PLA's progress, limits, remaining milestones, and challenges in meeting them. We did not assume that the presence of activities, reform-oriented actions, or directives signified progress. In most cases, reporting that covers training events, experimentation, and exercises allowed us to know that an activity occurred, but it provided limited information on the units and people participating, operational actions taking place, and overarching outcomes. Frequently, Western observers assume that a joint exercise or training event signifies progress and improved capabilities. In cases where advanced weapons, command automation systems, and operational concepts are highlighted in Chinese sources, many Western observers also conclude that the PLA is integrating and exploiting those advanced capabilities in ways that will improve its ability to fight modern wars. A similar set of assumptions also emerges when the PLA announces new development or modernization programs, policy milestones, regulations, organizational restructuring, and reform initiatives. It is important to identify these types of activities and programs because they do provide evidence of the seriousness with which the PLA and its leaders approach modernization; however, on their own and absent an understanding of the long-term context in which these events take place, it is easy to fall into the trap of believing that the existence of a program automatically translates to a solution and improvement.

Our research team attempted to mitigate this problem by emphasizing PLA analysis of its own programs and major events while also examining the broader systemic initiatives and concerns being discussed by China's political and military leaders. Also, where possible and necessary, the team considered investments (i.e., leadership attention, resources, time, and personnel) and their relationship to key lessons learned as discriminators between stated and actual objectives. Conversely, those areas where the PLA has identified persistent challenges over time are not treated as lesser priorities. The PLA's continued attempts to tackle these problems is evidence that its leaders view them as important to the PRC's overall military readiness and capabilities. Ultimately, this report documents an analysis of what the PLA learned, what it has attempted to accomplish drawing on those les-

sons, and where its senior leaders view progress and challenges. We focus on those areas that the PLA and its leaders view as important for fighting future wars with the military they have and the social and political realities it faces. A frequent comment from U.S. researchers is that the “PLA can do math, too.” Indeed, it can. However, the baseline logic, assumptions, and perceptions that the PLA applies when doing the math are, at times, very different from those used by U.S. researchers.

Systems Warfare as the Basis for Evaluation

Systems warfare has been a critical element in Chinese military thinking since 2005, when Hu Jintao outlined for the PLA’s All-Army Conference that “information-systems-based system-of-systems operations” would be a critical guiding concept in the PLA’s pursuit of informatization. This concept’s level of importance in Chinese military thinking is also demonstrated by the level of attention devoted to it by senior leaders in the form of experimentation, concept development, and technology application. It is closely connected to core principles, such as informatization and integrated joint operations, and also a key area highlighted by Xi Jinping in *China’s Military Strategy*, published in 2015.⁴¹ Similarly, systems warfare provides the foundational basis for several core operational concepts and is widely discussed in the PLA as the key to success in future conflicts.

By emphasizing system warfare, as stated above, this report will also not present a numerical and technical comparison of U.S. and Chinese militaries. Although these comparisons are important and provide some level of insight, they can also be misleading by discounting both systemic and more-specific problems that the PLA has attempted to address over the past three decades. The research team found few, if any, major analyses in which PLA researchers based their assessments and conclusions on quantitative force comparisons. This is not to say that PLA researchers and analysts do not engage in quantitative analysis. Instead, their leading researchers have pointed out that a range of other factors are as critical, if not more so, to the development of an effective operational system-of-systems. Beginning with Operation Desert Storm and carrying forward through the late 1990s and

⁴¹ State Council Information Office, 2015.

early 2000s, the PLA has recognized the need for more information, better networks, and increased integration among its services and force groupings. Today's PLA remains greatly concerned with issues related to how PRC military forces and operational systems are applied, particularly in the areas of command, operational planning, training, personnel quality and reliability, operational and tactical proficiency, and readiness. PLA studies generally do not address these capability areas in direct comparison to the United States; however, an implicit comparison is hard to avoid, since the PLA derives many of these standards from its own lessons and observations of U.S. operations. In this respect, the U.S. military has shaped the benchmark for success and progress in most, if not all, of these categories.

Identifying Systemic Imperatives Shaping China's Pursuit of Systems Warfare

After addressing the PLA's systems warfare construct, the research team applied the PLA's associated systems warfare concepts as the baseline for assessing which capability areas required focus to answer the core research objective of understanding how the PLA views the military balance. Our research departs from previous discussions of military balance by focusing on those systems that the PLA has emphasized in response to its lessons learned over the past three decades and the operational requirements and concepts it believes necessary for future conflict. Although the PLA is undoubtedly interested in comparisons between air forces, navies, and missiles and missile defenses, these platform- and service-centered comparisons fail to address a wide range of critical elements essential to Chinese war planning and operational concepts.

Since this report seeks to identify Chinese views of the military balance with the United States, we framed our analysis with the understanding that the systems and concepts outlined in this report would be tailored to a conflict with the United States, either as the primary enemy or as an intervening third party. The PLA's planning, if tied to this assumption, likely would involve a variety of strategic and operational systems, regardless of regional or domain-specific scenarios. Each of these systems would have a designated wartime function. China's wartime system would require each of these subsystems to function effectively to maintain equilibrium, survive, and ulti-

mately gain victory. For example, the strategic command system and the National Defense Mobilization System (NDMS) would play significant roles in any conflict with the United States, regardless of whether the specific scenario was centered on the Korean Peninsula, Taiwan, or the South China Sea. Because of this, our research examined Beijing's view of whether critical elements of both systems are able to meet China's wartime needs.

Our research also focused on several elements of operational systems and their related concepts, most of which were tailored for a Taiwan scenario but could be applied in other contingencies. For this report, our discussions of operational systems and concepts were carried out largely assuming a Taiwan scenario. We narrowed our focus in light of Taiwan's long-standing priority in PRC defense planning and its identification with China's main strategic direction. Building on this decision, our research explored how the PLA views the strengths and weaknesses of U.S. operational concepts, as well as Chinese perceptions of their own CONOPs and their relationship to the PLA's understanding of systems warfare.

Boundaries and Caveats

This report was limited on several fronts by the sources and information available for our research. First, this report drew on sources that do not provide extensive detail and are reserved in many of their observations. The PLA places great emphasis on operational and information security, which limits what PLA officers and researchers are willing and able to say in their published work. Second, our research relied on the PLA's assessments of itself. A frequent criticism of these sources is that they tend to overstate the PLA's views of its own capabilities and that they are also primarily focused on shaping the opinions of foreign audiences, including those in the United States. Counterintuitively, we have found the opposite to be true. The intended audience is the PLA. As a learning organization, the PLA relies on expert analysis and opinion in shaping its future concepts. Because of the PLA's political character, directives from leaders like Xi Jinping are explained and popularized through these channels. From a content standpoint, these materials are extremely critical of PLA capabilities, a fact that will be addressed in the report's conclusions.

A final limitation is that this research relies heavily on qualitative assessments. While the PLA conducts extensive quantitative analysis, most of the analysis that our research team was able to access was narrowly focused in both scope and intent. In general, these studies were centered on methodological issues and did not provide operational analysis similar to that of many U.S. government, Federally Funded Research and Development Center, or think tank reports. As a result, when most PLA studies discussed specific problem areas, there was limited detail regarding the extent and systemic impact.

In this initial exploration of this subject, we attempted to address these issues in our analysis and conclusions. The research team hopes that this report can help frame future tailored research on this subject.

Report Structure

This report contains eight chapters including the introduction. Chapter 2 describes the PRC's historical experiences, PLA lessons learned, and how those lessons have been applied. Chapter 3 outlines PLA strategic guidance in areas including informatization, leadership and command, and Xi's direction to the PLA to prepare for military struggle. Chapter 4 presents the PLA's approach to systems warfare and the key requirements for its successful implementation. Chapter 5 is derived from official press reports and summarizes what concerns Xi most about the PLA and its progress in "preparing for military struggle." In Chapter 6, we apply Xi's concerns to PLA development more broadly, including in the area of general systemic assessments and how the PRC views its most likely adversaries. Chapter 7 is a comparison of how the United States and PRC consider risk in their use of force decisionmaking, primarily against Taiwan. Finally, Chapter 8 presents conclusions and implications drawn from these findings.

Chinese Historical Experience and Lessons Learned

China's political and military leadership bases its views on the requirements for future wars, on its interpretation of China's historical place in the international system and, more specifically, its wartime experiences. In recent years, many Western analysts have discussed the impact that U.S. operations since the end of the Cold War have had on China's understanding of modern warfare. Many of these studies emphasized military technology, force structure, doctrinal concepts, and organization.¹ Outside of interest in the PLA's joint operations concepts, studies on the PLA's views on systems warfare and central operational concepts have had a much more limited treatment and have been undertaken only in recent years.² While constituting a significant new area of inquiry, this body of research generally has not yet provided in-depth treatment of several critical aspects of PRC war planning, including national mobilization, stability management, and civil

¹ Eric Heginbotham, Michael Nixon, Forrest E. Morgan, Jacob L. Heim, Jeff Hagen, Sheng Li, Jeffrey Engstrom, Martin C. Libicki, Paul DeLuca, David A. Shlapak, David R. Frelinger, Burgess Laird, Kyle Brady, and Lyle J. Morris, *The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996–2017*, Santa Monica, Calif.: RAND Corporation, RR-392-AF, 2015.

² Kevin McCauley, *PLA System of Systems Operations: Enabling Joint Operations*, Washington, D.C.: Jamestown Foundation, 2017; Jeffrey Engstrom, *Systems Confrontation and System Destruction Warfare: How the Chinese People's Liberation Army Seeks to Wage Modern Warfare*, Santa Monica, Calif.: RAND Corporation, RR-1708-OSD, 2018; Edmund J. Burke, Kristen Gunness, Cortez A. Cooper III, and Mark Cozad, *People's Liberation Army Operational Concepts*, Santa Monica, Calif.: RAND Corporation, RR-A394-1, 2020.

air defense, as they relate to more traditional areas of military operations. Without this discussion of key PRC leadership priorities for national defense planning, our understanding of how China views the military balance will be incomplete and open to mirror imaging that neglects the impact that China's historical experiences have had on its interpretation of U.S. military modernization, the revolution in military affairs, and the imperatives for fighting future wars.

This chapter describes how China's historical experiences and recent lessons learned from observing foreign military operations have shaped its views of the military balance. We explore China's historical war experiences and the general areas in which they differ from those of the United States. These experiences have served as the filter through which Chinese political and military leaders and researchers contextualized their observations and distilled lessons learned from United States operations since Operation Desert Storm. This material is not comprehensive; we do not examine the full range of Chinese historical experiences. Likewise, we do not address the impact of China's long history of strategic thought. But we do examine those modern historical events and experiences that continue to shape Chinese thinking on warfare and the preparations required to succeed.³

Along with these long-term direct experiences, this chapter also describes PLA lessons learned and observations from foreign military operations since the end of the Cold War. These lessons have been an important part of the PLA's modernization efforts because they helped identify current and future trends in warfare, emerging adversary operational concepts, and technological developments. Furthermore, these lessons have had a significant influence in shaping institutional perceptions about the types of threats that China and the PLA would have to confront if they went to war with a modern military, most notably that of the United States. Accordingly, the historical experiences outlined in the first section of this chapter can be viewed as foundational to many of the lessons learned that the PLA developed and applied over the past three decades.

We argue that to understand the PRC's views of the military balance—or any nation's, for that matter—it is necessary to consider the underlying

³ For this report, the window for defining *modern events* is from the mid-nineteenth century to the present.

perceptions—both institutional and, when possible, individual—that shape its leadership’s thinking, not only regarding how wars likely will be fought, but also on the adversary’s overarching objectives and the risks associated with fighting that particular adversary. Ultimately, PRC strategists indicate that modern wars are contests between opposing systems with an overarching objective of destroying or greatly diminishing the enemy’s war potential.⁴ These systems exist in an environment that requires them to operate according to general principles that dictate the functions required for survival and success.⁵ Perceptions—which include assumptions, experiences, and observations—play a large role in determining both how the military balance is framed conceptually and what diagnostic factors are central to assessing it.⁶

Similarly, perceptions also shape leadership thinking on deterrence and on the viability of China’s deterrent posture against not only the United States but also others who might contest China’s sovereignty or territorial claims. In many respects, China’s thinking on deterrence is shaped heavily by its leadership’s confidence that the PLA can successfully challenge a particular competitor.⁷ Surely, military capability is only one element of China’s deterrent posture, but when there is a potential for conflict with another major power, it is a critical ingredient. As a result, the same perceptions that shape China’s views on future wars and modernization needs will

⁴ Peng Guangqian and Yao Youzhi, *The Science of Military Strategy*, Beijing: Military Science Publishing House, 2005, pp. 55–62. War potential is defined as those “military, political, economic and spiritual powers” that can “enhance war strength by mobilization on the eve of declaration of war or in war time.” War potential and war strength constitute the “total war power” of a state or alliance.

⁵ Wang Yongnan, 2015; Ren Liansheng, “Preliminary Understanding of Information-System-Based System of Systems Operation Capabilities,” *China Military Science*, No. 4, 2010.

⁶ For a more complete discussion of perceptions, observations, and experiences, see Russell L. Ackoff and Fred E. Emery, *On Purposeful Systems: An Interdisciplinary Analysis of Individual and Social Behavior as a System of Purposeful Events*, New Brunswick, N.J.: Transaction Publishers, 2005, pp. 66–74. See also Robert Jervis, *Perception and Misperception in International Politics: New Edition*, Princeton, N.J.: Princeton University Press, 2017.

⁷ Zhang Yan, *Theory of Strategic Deterrence*, Beijing: Social Sciences Academic Press, 2018, pp. 107–114.

also contribute to PRC leadership views on the efficacy and sufficiency of its deterrence posture.

China's Historical Experience

China's thinking on modern warfare has been shaped by its historical experiences. These connections are discussed routinely in the PLA's professional military education and military science literature.⁸ Most critically, the PRC's analysis of American military operations has also been influenced by these experiences. In many respects, China's wartime experience during the 20th and 21st centuries differs greatly from that of the United States in several key areas. These differences are essential to understanding how China thinks of its strategic and operational system-of-systems on many levels and what its leaders see as the most likely security threats that it will face. More specifically, these formative national experiences and memories shape the way that China thinks about internal stability, threats on its borders, civil-military relations, and mobilizing war potential, among a host of other concerns. These concerns help define the wartime systems that Chinese strategists have theorized about at great length since 2005.

As outlined by Chinese military researchers, individual systems have a specific purpose or purposes in the overall national security or wartime system. Each performs a series of functions and consists of organizational components tasked with fulfilling a variety of specified requirements.⁹ China's assessment of U.S. military operations over the past three decades has been interpreted, in part, based on these experiences, and the conclusions drawn from these assessments have played a formidable role in shaping a broader conceptual architecture. In some cases, these lessons have addressed the question of systems theory as it applies to warfare, particularly as PLA scholars examined theories developed by their Western counterparts.¹⁰ In others, these lessons demonstrate the operational importance

⁸ By *military science*, we mean the science of strategy, science of campaigns, science of tactics, etc.

⁹ Wang Yongnan, 2015.

¹⁰ Dong Lianshan, 2015, pp. 9–32.

and interdependence of both military and civilian structures in military operations and strategic management in wartime. For instance, PLA lessons learned studies for both Kosovo (1999) and Iraq (2003) highlighted the importance of national defense mobilization and took away lessons about the importance of civil air defense, strategic reserves, and national emergency management as a means to prevent unrest within the civilian population and ensure national unity.¹¹ Analysis in these and later studies also raised questions about the United States' strategic objectives and played on Beijing's long-held concerns that the West's ultimate aim was to militarily coerce China, contain its rise, threaten its national unity, destroy its economic and industrial viability, incite unrest, and, in the end, undermine CCP legitimacy and rule.¹²

This section will explore seven aspects of China's historical experience that are regularly referenced in PRC military science literature and that shape both political and military leaders' thinking about what wartime functions will be required in future conflicts. Each subject area is tied to a general group of historical experiences that continue to influence how PRC strategists think about China's strategic and operational wartime systems. None of these categories or themes should be considered a strength or a vulnerability. Nor should they be thought of as impervious to change; however, most represent long-term perspectives that are deeply embedded in the PLA institutional thinking.

¹¹ Huang Bin, *Research into the Kosovo War*, Beijing: Liberation Army Publishing House, 2000, pp. 23–25, 124; Wang Yongming, Liu Xiaoli, and Xiao Yunhua, *Research into the Iraq War*, Beijing: Military Science Press, 2003, pp. 184–189.

¹² For example, see Ge Dongsheng, *On National Security Strategy*, Beijing: Military Science Press, 2006, pp. 22–29. PLA studies on noncontact warfare also presented a stark assessment of U.S. operations representing expanded wartime goals, including destruction of war potential and national leadership. See Liu Yuejun, ed., *Non-Contact Warfare*, Beijing: Military Science Press, 2004; Pan Youmu, *The Study of Non-Contact Warfare*, Beijing: National Defense University Press, 2003; and Shao Guopei, ed., *Information Operations in Non-Contact Wars*, Beijing: Liberation Army Publishing House, 2004.

Geography

Geography has had an impact in shaping Chinese security thinking in multiple areas: (1) the proximity of its potential adversaries, (2) the complexities of strategic planning and responding to threats given China's vast size, (3) the wide variations in urban and natural terrain, and (4) the emergence and prominence of new domains in modern warfare. The first three geographic factors are long-held considerations with which Chinese leaders have had to contend for centuries. Accordingly, while the details of both planning and response may have evolved in response to the international security environment, China's size, the threats present around its periphery, and its diverse geographic features have not. The fourth factor, however, is one in which China's military leaders—including, notably, Xi Jinping and his most recent predecessors—recognized that the PLA's ground-centric orientation was outmoded and had to be changed to address the role that newer domains would play in any future war against a modern adversary. Consequently, the role that geography has played in shaping PLA thinking about strategic and operational planning has involved a mix of continuity and change.

Proximity of Potential Adversaries

The United States has not fought a war on its own territory since the American Civil War, and its northern and southern borders are uncontested and represent the longest undefended borders in the world. One Chinese study characterized the United States as having a “geographic screen” provided by two oceans that enabled it to avoid “Europe's quarrels” and concentrate on its economic and industrial growth.¹³ At many times in the United States' history, this “geographic screen” has permitted it to retreat to the “strategic bastion of the American continents.”¹⁴ In contrast, China's history has involved near-continuous conflict, including territorial contests on its borders, civil wars, protracted guerilla operations, occupation by colonial powers, and preparation for potential conflict against both superpowers during the Cold War. Since the beginning of the Cold War, China has faced conflict in each of its current strategic directions. China's 2015 military

¹³ Ge Dongsheng, 2006, p. 45.

¹⁴ Ge Dongsheng, 2006, p. 45.

strategy explicitly acknowledges these concerns in its discussion of “chain reactions” that might occur in territorial hotspots around its borders and outlines the requirement for constant readiness to ensure that the PRC can manage crises in each strategic direction.¹⁵

Similarly, the PRC has viewed both superpowers as primary threats at different times in its recent past, requiring varied responses and changes in China’s strategic disposition. The threat from the United States persisted from the 1950s until the 1960s, highlighting the vulnerability of China’s heavily populated eastern provinces.¹⁶ Fear of the U.S. ability to project power from the sea forced a shift in Chinese defense industries and key infrastructure away from the coast and into more-defensible inland areas. As the PRC threat perception shifted from the United States to the Soviet Union, a massive shift in PLA force structure and basing went from the country’s southeast to its northern borders with the Soviet Union.¹⁷

In all of these cases—regional rivalries and disputes or threats from the two superpowers—PRC leaders were forced to consider the realities of conflict on China’s territory and the requirements for mobilizing resources and personnel for such a possibility.¹⁸ Accordingly, the CCP’s experiences with protracted war and People’s War (a Maoist military strategy in which enemy forces are lured deep into the interior, where their supply lines fail and they are attacked by the populace) during the Japanese occupation and after the PRC’s founding served as formative influences on Chinese military thinking, both in rhetoric and in application. From the standpoint of China’s historical experience and its geographic proximity to its adversaries, China faces the very real possibility of fighting either on or close to its territory for the foreseeable future. PRC leaders thus have become concerned that in a future conflict, United States power projection and long-range precision strike capabilities will threaten China’s industries, leadership, and eco-

¹⁵ State Council Information Office, 2015.

¹⁶ Shou Xiaosong, *The Science of Military Strategy*, Beijing: Military Science Press, 2013, p. 45.

¹⁷ Shou Xiaosong, 2013, p. 45; Wei Ouyang, *On Strategic Disposition*, Beijing: PLA Press, 2010, pp. 40–55.

¹⁸ Liu Sheng, Miao Lin, and Zhang Guoliang, *People’s War Under Modern Local War Conditions*, Beijing: Army Scientific Press, 1996, pp. 178–182.

conomic livelihood and require a variety of preparations to ensure protection and survival of its key national infrastructure and institutions.

China's Size

In light of China's proximity to its key adversaries, its vast physical expanse has provided both strategic and operational advantages and disadvantages. China's strategic depth has, at times, provided some level of sanctuary for its leaders and key resources. In the 1930s, the Chinese Communists' Long March into Yanan, Shaanxi province, removed them from close contact with the Kuomintang (KMT) and provided Communist forces with the necessary time and space to marshal resources and conduct guerilla operations until CCP leaders had reconstituted their strength.¹⁹ As the Communists moved to guerilla operations against Japan, Japanese supply lines were stretched thin by the attempt to maintain control of key urban centers and fight both the PLA and KMT. Future plans for war against the Soviet Union also relied on China's strategic depth to trade time for space to allow greater number of PLA forces to attrit and blunt a Soviet attack into the PRC. Today, although significant portions of China's economic strength and population reside in relative proximity to China's coast, the expanse of industrial development and defensive systems and the location of key industries and assets in other parts of China present any potential adversary with a complex, resource-intensive challenge if it tries to degrade China's economic and industrial potential.

The advantages in strategic protection afforded by China's size also provide challenges when responding to threats, particularly in an era characterized by the development of long-range precision strike capabilities. As discussed in the previous section, PLA planners are concerned with the possibility that an advanced adversary—most likely the United States—can initiate attacks against Chinese territory from any number of directions simultaneously.²⁰ Asymmetric, noncontact, and nonlinear attacks—sometimes referred to by PLA authors the “Three ‘Nons’”—permit PRC adversaries

¹⁹ Mark A. Ryan, David Michael Finkelstein, and Michael A. McDevitt, eds., *Chinese Warfighting: The PLA Experience Since 1949*, Armonk, N.Y.: M.E. Sharpe, 2003, p. 27.

²⁰ Liu Wei, ed., *Theater Joint Operations Command*, Beijing: National Defense University Press, 2016, pp. 55–56.

such as the United States to “conduct synchronous strikes against targets in all-depth, leaving . . . no room or time to adjust and adapt” and combining “physical strikes and psychological ‘shock and awe’” in ways designed to control and paralyze an opposing system and its population.²¹ At the same time, China’s concerns about “chain reactions,” prosecuted either opportunistically during a major power conflict or in concert with the United States, require a command structure and force disposition capable of responding in all strategic directions—a reality that was clearly outlined in China’s Military Strategy in 2015 and subsequently during the PLA reforms announced later that year.²²

When coupled with the development of maritime and naval forces in recent decades, the proximity of threats and vast distances of China’s geography have prompted the PLA to develop its ability to perform long-range mobility missions that could bring needed forces from all parts of China in a crisis.²³ This effort, which began with experimentation in 2009, became a major focus during the period between 2011 and 2013 as major exercises focused on long-range mobility and combat in unfamiliar environments. These exercises were focused on all services and received high priority from PLA leaders. The creation of theater commands also reflects the realities of China’s geographic position. These commands—each with a geographic area of responsibility corresponding to an individual strategic direction—are responsible for planning and operations within their individual theaters and are given operational control over the units and service capabilities that reside there.²⁴

Finally, China’s long periphery is ringed with U.S. bases and allies. This disposition has “formed a setup and posture of strengths that incompletely

²¹ Shou Xiaosong, 2013, pp. 92–99.

²² State Council Information Office, 2015. The term “chain reaction” refers to military actions taken—most likely by an adversary with a rival territorial claim—at a time when China is militarily engaged and when the adversary might perceive a situational advantage in the PRC’s involvement in another contingency.

²³ For a discussion of PLA experimentation and joint training for long-range mobility operations, see Mark Cozad, *PLA Joint Training and Implications for Future Expeditionary Capabilities*, Santa Monica, Calif.: RAND Corporation, CT-451, 2016.

²⁴ Liu Wei, 2016, pp. 14–15.

seals China along Northeast Asia, Southeast Asia, Southwest Asia, Central Asia, and the north.”²⁵ From a PLA perspective, this posture is not only key to providing the United States with the basing and proximity necessary to intervene at a time of its choosing, but also intended to contain China. Likewise, China’s long periphery and vast border regions “have become major regions for hostile forces to conduct subversion, infiltration, and destructive activities,” including transnational criminal groups and “various hostile foreign forces inside and outside the border” seeking to intensify their efforts at “Westernization” and “splitting” of China.²⁶ The variety of threats confronting PLA planners around China’s periphery requires constant readiness, a command structure that accommodates a variety of hostile actions in multiple theaters, and response mechanisms at levels ranging from high-end conventional conflict to counter-special operations forces and law enforcement.

Variations in Urban and Natural Terrain

China’s varied urban and natural terrain forms another key element of China’s geography that has shaped PLA perspectives on future warfare in recent years. When the PLA shifted its focus away from the Soviet Union and toward the maritime southeast in 1993, it embarked on a period of conceptual development that examined different models of conflicts that the PLA would have to address in the coming years, primarily focused on operations against the United States and Taiwan. In 1993, the CMC directed PLA academic and military science institutions to study local wars under high-tech conditions, and a broad range of studies were produced. These studies looked at the application of People’s War under high-tech conditions, and the PLA’s NDU published the “Four Wars Series”—a series of studies published in 1995 that outlined core types of operations for which the PLA would have to prepare itself to meet the requirements of the *Military Strategic Guidelines for the New Era*.²⁷ The four types of warfare discussed in the series included amphibious, mountain, urban, and airborne operations.

²⁵ Ouyang Wei, 2010, p. 197.

²⁶ Li Xing, *Science of Border Defense*, Beijing: Military Science Press, 2004, pp. 17–19.

²⁷ Liu Sheng, Miao Lin, and Zhang Guoliang, 1996.

Subsequent studies published by the AMS in 2001 for the “Research Series for Island Combat Operations” highlighted similar subjects and were written “to provide a theoretical reference of practical value for the campaign commanders and their command staffs at theater and various levels of all services.”²⁸

PLA research on operations in these environments has continued in recent years, with increased focus on urban and airborne operations.²⁹ While these specific publications are generally geared toward Taiwan contingencies, PLA training, concept development, and contingency deployments have focused on a variety of potential scenarios, including the Korean peninsula, the Indian border, and the South China Sea. This range of potential operating environments has factored into PLA training over the past decade, with notable examples of PLA air mobile and airborne forces training for small island seizures and People’s Liberation Army Navy (PLAN) Marines training for operations in cold-weather, mountainous climates.³⁰ These examples all point to a general understanding within the PLA that future conflicts may involve a wide range of potential operations in complex environments and terrain as part of a broader war plan against an adversary with the global reach and capability to operate in multiple environments.

One of the most significant developments in PLA strategy was outlined in *China’s Military Strategy* in 2015. The strategy directed that to implement the “military strategic guideline of active defense in the new situation, China’s armed forces will adjust the basic point for PMS [preparation for military struggle]” and the PLA must focus on “winning informationized local wars” with special emphasis on “highlighting maritime military

²⁸ Gao Yubio, *Island Offensive Operations*, Beijing: Military Science Press, 2001; the quotation is from the preface. For a second book in the series, see Wang Xibin, *Offensive Battles on Island Mountains*, Beijing: Military Science Press, Research Series for Island Combat Operations, 2001.

²⁹ Recent examples include Liu Shiqing, *Vertical Landing Operations*, Beijing: National Defense University Press, 2017, and Cao Zhengrong, Sun Longhai, and Yang Ying, *Informatized Army Operations*, Beijing: National Defense University Press, 2014.

³⁰ Chen Guoquan et al., “The ‘Mighty Dragon at Sea’ Withstands the Major Test of All-Area Operations: An Account of the First Cross-Region Movement and Cold Region Training of the Marine Corps of the PLA Navy with a Complete Unit,” *Jeifangjun Bao*, March 21, 2014.

struggle and maritime PMS.”³¹ The main driver behind this new emphasis is a perception that, in recent years, challenges to China’s maritime claims have become more prominent and aggressive, and the United States and its allies have attempted to constrain the PRC’s use of maritime resources. A key element of this strategy is based on a perception that the United States and its allies are exacerbating maritime disputes in ways that detract from China’s rights and privileges while protecting theirs. From the PRC’s perspective, the growing importance of China’s maritime environment is critical to enabling China to enjoy the “benefits of the open seas, the international seabed, and the polar regions, primarily including such projects as the use of maritime resources, transit and overflight of the open seas, fishing, scientific research, creating artificial islands, and laying seabed telecommunications cables.”³²

New Domains

China’s thinking about its geographic reality also has required adaptations in the past three decades to account for a wide range of new domains outside of the PRC’s physical geography. The development of informatized and noncontact warfare have necessarily expanded the PLA’s thinking about the types of operations and expertise required for wars against modern adversaries. As technology has progressed, so have requirements for ensuring that the PLA is prepared to fight and control the multidomain battlespace. These requirements have been especially pronounced in the area of systems warfare, with its operational imperatives for greater coordination, integration, and comprehensive support to all PLA forces involved in an operation.³³ The concept of “Confrontation Across All Domains” has forced the PLA to change its traditional warfighting perspectives and recognize that “in future theater joint operations, the timing and space of operations will be vastly extended,” meaning that operations will be underway “at all times

³¹ State Council Information Office, 2015.

³² Ouyang Wei, 2010, pp. 205–207.

³³ Wang Yongnan, 2015, pp. 90–91.

and across all dimensional spaces including the ground, sea, air, space, electromagnetic [EM] spectrum, and networks.”³⁴

Changes to the PLA’s traditional warfighting perspectives can be seen in the PLA’s new organization, its emphasis on jointness, and its modernization programs. Traditionally, the PLA’s leadership and strategic outlook had been dominated by army officers. The PLAN was largely a coastal force with limited capability and aged equipment, while the People’s Liberation Army Air Force (PLAAF) remained outdated and politically suspect. As previously discussed examples of PLA analysis prior to the Gulf War demonstrate, air and maritime power were not significant factors in the PLA’s evaluation of American capabilities, nor were they central to the PLA’s thinking about its own modernization. Operations Desert Storm in Iraq and Allied Force in the former Yugoslavia highlighted the importance of these two domains as core elements of noncontact warfare—an operational concept that emphasized stand-off precision strikes and deemphasized “contact warfare” between opposing ground forces.³⁵ Similarly, the multidomain nature of U.S. operations over the course of the 1990s served as the foundation for systems warfare and later American concepts, such as “Rapid Decisive Operations,” “Network-Centric Operations,” and “Strategic Paralysis.”³⁶ These concepts played a formidable role in the PLA’s development of its own systems warfare-oriented CONOPs.

The PLA’s efforts to enhance jointness in its ranks have evolved partly as a result of the recognition by its senior leaders that the PLA’s traditional ground-oriented hierarchy was no longer adequate and needed to be expanded. Air and maritime operations, along with cyber, space, and information operations, became essential elements of future warfare and capabilities that the United States had employed successfully in multiple operations. Such concepts as informatized warfare, the “Three Warfares,” and the development of space, counterspace, and cyber capabilities all demonstrated the PLA’s resolve to expand its focus across the full spectrum of

³⁴ Dong Lianshan, 2015, pp. 294–295.

³⁵ Huang Bin, 2000, pp. 137–144; Guan Youxun, 1991.

³⁶ Wang Yongnan, 2015, p. 15.

domains that characterized modern warfare.³⁷ The PLA's call for forces to be prepared for multidomain operations in the 2015 military strategy and the subsequent establishment of the Strategic Support Force (SSF) during the 2016 reforms demonstrate the institutional priority assigned to ensuring the PLA's all-domain readiness.

Resources

PRC leaders recognize that China is still a developing country, despite its significant economic and technological progress in recent decades. China's development plans generally span long horizons extending to mid-century, and there is a general recognition among PRC leaders that mobilizing resources from across Chinese society in wartime will be a core requirement. This viewpoint extends back to the concept of People's War and the recognition that, with China's limited resource capacity, it must rely extensively on its population to augment and support its wartime needs.³⁸ The Kosovo War reinforced for PLA researchers that mobilization in all its forms—national defense education, civil air defense, strategic reserves, and peacetime preparations—would be critical in a future war with the United States designed to “Westernize,” “divide,” and “weaken” China using its “Three Advantages” (information, firepower, and quick reaction).³⁹ These experiences and more studies about the importance of prewar preparation and mobilization have informed Beijing's efforts over the past two decades to develop China's NDMS and implement a broad strategy for civil-military fusion (CMF) with the goal of ensuring that civilian technology and production support the PLA's needs.⁴⁰ Both endeavors are high priorities for CCP and PLA leaders, with Xi Jinping placing significant attention on these integrated programs.

³⁷ The PLA defines the “Three Warfares” as public opinion warfare, psychological warfare, and legal warfare.

³⁸ Liu Sheng, Miao Lin, and Zhang Guoliang, 1996, pp. 123–127.

³⁹ Huang Bin, 2000, pp. 23–25, 136–138.

⁴⁰ Ren Min, *The Science of National Defense Mobilization*, Beijing: Military Science Press, 2008, p. 24.

A central concern regarding protecting and accessing strategic resources for wartime use lies in the need to maintain defense industrial production for use both in war and after. Despite PRC hopes for a “war of quick decision,” the development of the NDMS and discussions in PLA publications recognize that “the strong enemy’s intervention could change a war of quick decision into a protracted war.”⁴¹ Protracted conflict, in turn, raises concerns about the PLA’s ability to conduct and sustain noncontact operations, given the high consumption rates of munitions and weapon systems that it requires and the loss of economic and military industrial capacity inflicted by the noncontact strikes that PLA researchers have identified as essential characteristics of this now-pervasive form of warfare.⁴² The need to ensure access to additional weapons and platforms is critical. Similarly, to maintain wartime production, maintenance, and repair, the PLA must ensure that its key facilities have the raw materials, skilled labor, technical experts, and equipment available to meet wartime demand. As PLA lessons learned have demonstrated, American noncontact operations are designed to destroy the adversary’s war sustainment functions—including defense industry, transportation infrastructure, and telecommunications—early in the conflict.⁴³

Similarly, maintaining access to energy and transportation resources is also a critical concern for China’s leaders. Concern about the vulnerability of PRC energy supplies to U.S. interdiction efforts has been termed the “Malacca Dilemma” in earlier PLA writings, and the general issue of ensuring wartime access to critical resources remains a key consideration for war-time planning, especially in the context of a protracted conflict.⁴⁴ Likewise, PRC leaders have long understood the importance of a developed and functioning transportation infrastructure throughout all phases of conflict. Difficulties with logistical sustainment and shortages are present in many historical examples of PLA operations from the Korean War through Vietnam and have continued as a recognized concern for PRC political and military leaders. For that reason, PRC leaders are sensitive about the development,

⁴¹ Shou Xiaosong, 2013, p. 132.

⁴² Pan Youmu, 2003, p. 13.

⁴³ Huang Bin, 2000, pp. 35–36.

⁴⁴ Ouyang Wei, 2010, pp. 201–203; Shou Xiaosong, 2013, p. 267.

maintenance, and protection of the infrastructure and resources necessary to sustain modern wars. Efforts in recent years in the areas of civil air defense, CMF, and “smart mobilization” programs provide insight into the wide variety of programs that have received high-level backing and attention toward these ends.

Ultimately, the PLA’s analysis of other militaries’ operations highlights these concerns, which remain key elements in China’s core operational concepts, particularly those related to systems warfare. In general, early PLA studies examined mobilization practices that worked (e.g., Yugoslavia) and those that did not (e.g., Iraq) with an understanding that China’s mobilization requirements in future wars will be vastly different in scale and considerably more complex. Serbia’s effective mobilization did not make up for the disparity in overall resource capacity and comprehensive strength between it and the United States. Likewise, ineffective mobilization was only one of many contributing factors that led to Iraq’s defeat. However, PLA researchers argued in both cases that the importance of mobilizing a nation’s war potential—human resources, reserves and militia, services, strategic stockpiles, transportation, energy, etc.—went beyond support to operations. It was essential for ensuring the integrity and functioning of a nation’s war-time system-of-systems. Maintaining public order, disaster and emergency response, preservation of the economy, and, ultimately, regime protection are all critical elements for ensuring that the PRC maintains access to the resources necessary to fight a modern adversary in the future.

War Experience

The PRC’s recent war experience—from World War II until the present, but this argument can be extended as far back as the nineteenth century—has involved conflict on or near its home territory, often against well-armed adversaries with considerably more resources. As mentioned in previous sections, the PRC has planned for and relied on its strategic depth and its ability to mobilize its population to fight protracted wars often involving massive attrition of both military and civilian resources. The PLA no longer sees wars of attrition as a desirable, let alone viable, option. The concepts of People’s War and *active defense*, which we describe in detail later, remain central characteristics of China’s military strategy, although many of their

key components have been modified and adapted to meet the needs of modern warfare. Along with the underlying precepts of People's War, PLA lessons learned have connected the ability to unify the population through National Defense Education with broader mobilization efforts.⁴⁵ Others have studied the importance of political work in maintaining reliability in the ranks through developing a "fighting spirit."⁴⁶ In both of these cases, questions of ensuring mass support and the reliability of both the population and the PLA are paramount as the scale of mobilization and threat to the population increased. Indeed, PLA studies that have examined the extent of mobilization that such nations as Iraq and the former Yugoslavia had to undergo to fight the United States noted that they both performed total mobilization.⁴⁷

The conclusions in these studies are in stark contrast to U.S. views, which considered these conflicts limited wars. While these PLA studies do not frame China's strategic situation as being similar to Iraq or the former Yugoslavia, it is clear that the type of operation that the authors observe being waged against these and other nations by the United States required a higher level of mobilization than limited conflicts. These same lessons have highlighted the operational disparities between the United States and China in several areas, including technology, training, tactics, operational concepts, resources, and sustainability. Exacerbating these operational disparities are what many recent discussions in PLA press have identified as the negative effects of having a military with no recent combat experience.⁴⁸

⁴⁵ Huang Bin, 2000, p. 136.

⁴⁶ Two recent studies on political work that emphasize these themes are Liu Zhihui, Zhu Tingchun, and Liu Xingxing, *Military Political Work Under the New Situation*, Beijing: National Defense University Press, 2016, and Li Bing, *Research on Military Political Work*, Beijing: National Defense University Press, 2014.

⁴⁷ Ren Min, 2008, p. 24.

⁴⁸ Li Jiabin, Zhang Junfeng, and Zhao Zhiguo, "A Combined Regiment of the Southern Xinjiang Military District Has New Solutions to That Difficult Problem of Training Senior Noncommissioned Officers," *PLA Daily*, April 9, 2021; Cheng Ronggui, "Combat-Guided Training, Soldiers Should Train as They Would Fight: A Series of Talks on the Commander in Chief's Order to Focus on Military Training," *PLA Daily*, January 15, 2020; Wang Jiang Zhun and Lu Li Hua, *Operational Command in a Joint Campaign*, Beijing: National Defense University Press, 1999.

A final element of China's war experience is tied to its perception that foreign powers, most notably the United States, have traditionally tried to weaken and subjugate China. A key lesson from the United States coalition's operations in Kosovo was that the idea of protecting democracy and human rights would become a pretext used by Western militaries to justify the use of force in the future.⁴⁹ Accordingly, PRC leaders have focused on methods to limit the United States' ability to deploy its forces around China's periphery—but they also recognize that the U.S. military has demonstrated the ability in the past to project power from a variety of directions and at great distances, frequently with the aid of its numerous alliances and international basing agreements. In addition, many of the U.S. methods for projecting power rely on informational and nonmilitary tools, such as the media and international law. The concept of the "Three Warfares" was designed to counter these tools directly.

Stability

Stability, particularly the fear of disorder and chaos, has been a core historical concern of Chinese rulers for centuries.⁵⁰ The CCP's stability concerns have an added element—that the Chinese population remains loyal to the CCP and that there are no other centers of power. Examples from the past century and beyond demonstrate how threats such as warlordism and internal rebellion can emerge from power vacuums that develop from the absence of strong central authority. The CCP jealously guards authority and seeks to maintain order while also ensuring that the numerous examples of shifting loyalties throughout Chinese history do not lead to instability in either peace or war.

Discussions about stability in China involve three core elements: *active resistance*, *passive resistance*, and the *reliability* of the PLA and the PRC's population more broadly. Frequently, *active resistance* absorbs most of the attention of Western observers and focuses on the PRC concerns about ethnic minorities in Tibet and Xinjiang, as well as "separatist" forces who

⁴⁹ Huang Bin, 2000, p. 135.

⁵⁰ Sulmaan Wasif Khan, *Haunted by Chaos: China's Grand Strategy from Mao Zedong to Xi Jinping*, Cambridge, Mass.: Harvard University Press, 2018, pp. 3–8.

might collaborate and partner with Western special forces or intelligence to undermine CCP authority. PRC writings, including those from the PLA, have recognized this threat as an extension of U.S. operations in the former Yugoslavia, Afghanistan, and Iraq. The PRC view that democracy and human rights have become a preferred Western pretext for intervention is built, in part, on the idea that threatening regime survival by activating “separatist” forces is a key element of the new American way of war. Accordingly, the PRC has spent considerable time and resources developing its internal security infrastructure to deal with these threats, in both peacetime and war. In recent years, PRC leaders have invested in improving public security forces, enabling the PRC’s propaganda enterprise to extend its reach and control, and enhancing surveillance tools. Chinese stability management programs go well beyond these three areas and demonstrate the concern that CCP leaders have regarding this threat.

The possibility of passive resistance in wartime receives far less attention but is a significant concern. In light of the PRC’s vast surveillance and coercive apparatus, active resistance against and direct challenges to the CCP is likely to be seen by much of the population as a risky endeavor. Similarly, active resistance may not materialize because of the nature of the conflict or the extent to which actions by an enemy may actually rally China’s population to the CCP’s leadership. Regardless, the CCP’s emphasis on mobilization may diminish the willingness within segments of the population—whether individuals or businesses—to comply with the demands being placed upon them. Because the CCP and PLA prioritize mobilization as a critical function for transitioning the PRC from a peacetime to wartime footing, non-compliance with the demands of mobilization are likely to be perceived as insidious but real threats to CCP control and the effectiveness of PRC war efforts. These concerns have been evident in PLA and other official media treatment of mobilization compliance, with admonitions in official press for people to comply with mobilization directives during military exercises and programs to ensure that business and local party officials are accurately reporting inventories and stockpiles to national mobilization authorities.

A related stability issue is the reliability of both the PLA and the general population. A key element of China’s national defense mobilization law is national defense education designed to ensure that the PRC population understands its role in national defense. Key elements of the PLA’s 2016

reform reemphasized the CCP's leadership of the military, enhancing political work as part of building a "fighting spirit" within the PLA and ensuring that PLA commanders and troops remain loyal to the CCP's leadership. The core objective of CCP programs to enhance reliability in both the PLA and the Chinese population is to instill the view among the Chinese people that the CCP is the sole source of authority; there are no other centers of power. In the end, CCP leaders want to know that if war does break out, soldiers and civilians will do what the Party asks of them.

Internal Politics

A major element of China's historical perspective regarding internal politics is closely tied to its views on stability, shaped by its experience since the PRC's founding and establishment of CCP rule: The PLA is a Party army, and this has been reiterated forcefully by Xi Jinping during his tenure. Similarly, the PRC does not have competitive politics or nongovernmental institutions that operate freely outside the Party's control or purview. These political realities have reinforced two themes shaping the PLA's culture today. The first theme is *centralization and hierarchy*, in the PLA's relationship with the CCP and also within the PLA's internal orientation. Such themes as the "Two Safeguards" reiterate to the PLA and Chinese population "the core status of General Secretary Xi Jinping in the party Central Committee and in the entire party" and urge citizens to "resolutely safeguard the authority and centralized, unified leadership of the party Central Committee."⁵¹ Such other themes as the "Four Awarenesses" and the "Four Self-Confidences" are used in PLA political work to reinforce the importance of ensuring awareness of leadership and political relationships, as well as confidence in the party's guidance.⁵² This facet of PLA culture has created an environment

⁵¹ "CPC Central Committee Political Bureau Convenes Meeting, Deliberates 'Regulations on Military Political Work,' 'CPC Regulations on United Front Work,' 'Regulations on Protection of Rights of CPC Party Members,' Xi Jinping, General Secretary of CPC Central Committee, Presides over Meeting," Xinhua, November 30, 2020.

⁵² The "Four Awarenesses" are political awareness, awareness of the core, awareness of alignment, and awareness of the overall situation, which make clear the key elements of the PLA's reliance on the CCP for leadership and guidance; the "Four Self-Confidences" are confidence in the path, theory, system, and culture.

in which PLA subordinate commanders have shown limited initiative for fear of the repercussions of failure and a top-down decisionmaking process that has typically forced key decisions to higher levels. The second theme is closely related and speaks to centralized control of processes and institutions. This second factor has led to a certain degree of PLA projection about the United States government's control over the media, for instance.⁵³ The key implication for these two themes is that many PLA analyses assume that U.S. actions are directed from a central authority with a corresponding level of commitment and intent, and they fail to recognize that frequently these activities (e.g., articles in the press) are conducted by entities over which the United States government has no authority.

National Power

Chinese leaders generally have seen China as a weaker power and a developing country with fewer resources and more-immature tools at their disposal for competition with major powers. This perspective was formed by China's recent relationships with stronger powers, whether subjugation to Japan or European colonial powers from the nineteenth century until the end of World War II, civil war with a well-armed KMT supported by the United States, or confronting one of the superpowers during different periods of the Cold War. Sensitive to the measurement of relative national power, many PRC publications have examined the connections between comprehensive national power (CNP), war potential and deterrence, and military strength. In each of these studies, the authors highlighted the importance of CNP, particularly its military component, to ensuring security and deterring coercion.

Previous sections in this chapter have highlighted elements of the PRC conceptions of *national power* or *war potential*—both of which encapsulate interrelated factors including geography, natural resources, political security, military power, technology development, internal stability, and economic development. PRC leaders have prioritized developing and securing China's national power as a key element in their overall strategy promoting

⁵³ Bill Gertz, "Chinese Spymaster Complains About News Leak," *Washington Times*, October 8, 2009.

the *China Dream*. Their ability to mobilize and use these elements of power is critical to China's aspirations as the regional hegemon and a global power. As a result, PRC leaders recognize the importance not only of being able to mobilize China's war potential but also of protecting the key components that constitute China's war potential from foreign intervention or attacks.

China's Lessons Learned

Though the PLA has not fought a war since the 1979 Sino-Vietnamese War, it has meticulously examined nearly every conflict waged in the modern era. As mentioned in the introduction, the PLA's intensive analysis began with its own misreading of likely outcomes in Operation Desert Storm and a sober examination of the Iraqi military's defeat and collapse during that operation. The coalition force's swift victory over Iraq was a stunning revelation to the PLA because it vividly demonstrated that many PLA assumptions were no longer valid. During the conflict, a U.S.-led multinational coalition reduced the strength of the world's fourth-largest army by roughly 50 percent in a 38-day air campaign and destroyed 80 percent of the Iraqi C2 network and 90 percent of the Iraqi logistics network.⁵⁴ Furthermore, the totality of these air operations substantially reduced the morale, reliability, and, ultimately, the combat effectiveness of Iraqi forces. In follow-on ground operations, the U.S.-led coalition annihilated Iraq's remaining forces in a four-day combined-arms ground campaign that led the PLA to implement a series of experiments to build its own combined-arms capability.⁵⁵

Operation Allied Force in 1999 was yet another highly formative, if largely vicarious, experience for the PLA.⁵⁶ Despite the North Atlantic Treaty Organization's (NATO's) overwhelming advantages, this conflict provided

⁵⁴ Cen Hua et al., eds., *A Dictionary of High-Tech War*, Beijing: Military Science Press, 1999, pp. 604–605, 608–609.

⁵⁵ Iraqi military losses included 41 army divisions (infantry, mechanized, and armor). Furthermore, over 3,000 main battle tanks and nearly 2,000 armored vehicles were captured or destroyed. International Institute for Strategic Studies, *The Military Balance 1991–1992*, London: Brassey's, 1991, p. 100.

⁵⁶ It should be noted that the PRC's embassy in Belgrade was accidentally targeted in a U.S. air strike.

the PLA with an initial look at how a technologically inferior military might fight asymmetrically against a technologically superior foe, by using innovative tactics, maintaining the safety and will of the population, and effectively mobilizing resources to withstand sustained attacks and maintain internal control. This led to a wide-ranging series of initiatives designed to acquire modern weapons, develop new CONOPs in such areas as air defense and joint operations, and reinvigorate programs to address China's civil defense and mobilization needs. Allied Force also demonstrated to the PLA that American military modernization efforts had only accelerated in the eight years since Desert Storm. Most significantly, the conflict taught the PLA that noncontact operations—signified by airpower and long-range precision strike—could not only achieve the United States' expansive strategic objectives but also win wars. Indeed, “final victory” could be realized by these noncontact means that were based on a combination of kinetic and nonkinetic attacks employing stealth platforms, advanced intelligence, surveillance, and reconnaissance (ISR), precision weapons, cyberattacks, and electronic warfare (EW).⁵⁷

Both wars taught the PLA that the defining characteristics of modern warfare had fundamentally changed because modern technology, used in service to the role of information in warfighting, had enabled a revolution in operational art. Most importantly, the PLA learned that it had to catch up or face defeat. As a result of deep examination of these conflicts and the extensive lessons learned produced from that effort, the PLA further refined how it understood the characteristics of modern warfare.

The PLA's Recent Lessons Learned

Geography of War: “The Unprecedented Expansion of the Battlefield”

In examining the Gulf War, the PLA recognized that the geographic area of operations had expanded in an unprecedented fashion—a factor that built on its historical concerns regarding China's geographic realities. Operations in and around Iraq demonstrated that the actual battlefield had grown to a

⁵⁷ Peng Guangqian and Yao Youzhi, 2005, pp. 436, 438; Guo Meichu, ed., *High-Tech Local War Theory*, Beijing: Military Science Press, 2003, pp. 30, 32.

size of thousands or tens of thousands of kilometers from only dozens in previous periods. Weapons platforms now attacked across broad distances and were often deployed from high altitudes and underwater. Furthermore, established notions of *front* and *rear* in the battlespace lost much of their distinction. Targets at the front were struck simultaneously with targets in the strategic rear. The battlefield itself became, in the words of PLA strategists, “nonlinear”—the majority of Iraqi targets struck by coalition forces were in the rear. Last, battlefields became multidimensional as platforms in the land, sea, air, outer space, and EM domains were used to attack or directly support attacks in the physical domains.⁵⁸

In learning from the Kosovo War, the PLA recognized that the direct campaign engagement space had shrunk dramatically, even while the strategic space in which war is implemented had increased. The PLA also recognized that the various battlefield domains were substantially more connected than they had been previously, and the various domains even overlapped. Warfare, though likely to begin in either the air or EM domain in this new reality, would eventually spill into other domains. Last, the PLA recognized that the air-space battlefield was the most important of all battlefields. Its control in conflict was necessary, if not sufficient, for control of the EM domain and the other physical domains.⁵⁹

Tempo of Operations

Both the Gulf War and Kosovo War highlighted that the tempo at which military operations are prosecuted had dramatically increased. Military operations now occurred around the clock, often starting in the early hours and continuing into 24-hour combat until objectives were achieved. Night-time and adverse weather conditions no longer halted operations because the application of night vision and various electro-optical sensors mitigated their effects. Mobility had also rapidly increased, with strategic transportation capabilities to move forces to the battlefield from global distances and

⁵⁸ Liu Sheng, Miao Lin, and Zhang Guoliang, 1996, pp. 138–140, 144–145; Cen et al., 1999, pp. 602–603, 605–606; Peng Guangqian and Yao Youzhi, 2005, pp. 437–438; Guo Meichu, 2003, pp. 17, 46, 49–52.

⁵⁹ Peng Guangqian and Yao Youzhi, 2005, pp. 442–443; Guo Meichu, 2003, pp. 43–46.

the tactical ability to advance rapidly by relying on long-range sensors and support by long-range firepower.⁶⁰

Furthermore, the improvements in conventional weapons' capabilities were so significant that they fundamentally changed how modern military operations were prosecuted and required the PLA to rethink its long-term perspectives on warfighting. Effective warfighting no longer relied on the concentration of forces to attain a local quantitative advantage. Rather, it relied on concentrating firepower and various qualitative advantages, as well as operational effectiveness. Mass itself is easily targetable and therefore a liability. As a result, the PLA's long-standing concept of "annihilation warfare"—which had been modified and fine-tuned to meet the realities of every succeeding era since the founding of the PLA in 1927—was no longer valid in the eyes of many PLA strategists. Annihilation warfare had been used to achieve military objectives through the gradual destruction of large numbers of personnel and materiel on the battlefield and had been relevant at all points on the spectrum of conflict—from guerrilla warfare all the way through postulated large-scale conflict with the Soviet Union in the latter half of the Cold War.⁶¹

Destructiveness of Weaponry

The destructiveness of the latest generation of munitions increased as conventional weapons became much more powerful while precision guidance simultaneously increased their effectiveness and efficiency. Together, these improvements dramatically decreased the total number of weapons platforms required to destroy a particular target while elevating the importance of technical branches (e.g., EW units, army aviation units) and other services, such as the Air Force and even Navy, in carrying out ground combat operations. This evolution also highlighted the utility of elite ground units

⁶⁰ Liu Sheng, Miao Lin, and Zhang Guoliang, 1996, pp. 139–141; Cen et al., 1999, pp. 603–606; Peng Guangqian and Yao Youzhi, 2005, p. 437; Guo Meichu, 2003, pp. 48–52.

⁶¹ A heavily modified revision of annihilation warfare, referred to as "overall operations," was an intermediate theory of victory from the late 1980s until the Gulf War period.

in achieving objectives (e.g., the U.S. Seventh Army, the 1st and 2nd Marine Divisions, the 82nd and 101st Airborne Divisions in the Gulf War).⁶²

Reliance on Information

Reliance on information became an essential feature of warfighting. This manifested itself in several ways, including the dependence on automated command systems to integrate and unify command to successfully coordinate the air operations of 12 coalition partners to carry out 112,000 sorties. Positioning, navigation, and timing systems were also becoming vital to the effectiveness of weapons platforms. Information reliance further showed itself in the weapon systems that carried out detection, tracking, aiming, launch, guidance, and strike in automatic or semiautomatic modes and in EW employed both offensively and defensively (see Table 2.1). Information, through ISR networks, provided real-time and full coverage of the battlefield itself.⁶³

During the Kosovo War, the importance of information in warfare had become even further heightened. Information itself was now seen by the PLA as a “strategic resource.” Specifically, it was recognized as playing an even greater role in the effectiveness of weapons platforms, command integration at all echelons through digital technology, and military information systems that process, transmit, formulate plans, automate decisionmaking, guide combat forces, select targets, and conduct assessments. Information warfare had become a type of military operation that included EW and cyber warfare. Most profoundly, seizing and maintaining information dominance was now more important to achieving military objectives than the mass destruction of enemy forces on the battlefield.⁶⁴

The 1999 Kosovo War further proved the utility of high-technology weapons on the battlefield while demonstrating the value of new capabilities to the PLA. The PLA noted the increasing role of the U.S. fleet of satellites and the armed forces’ reliance on it for ISR and positioning, navigation, and

⁶² Liu Sheng, Miao Lin, and Zhang Guoliang, 1996, pp. 140–141; Cen et al., 1999, pp. 603–605; Guo Meichu, 2003, pp. 48–49.

⁶³ Liu Sheng, Miao Lin, and Zhang Guoliang, 1996, pp. 143–144; Cen et al., 1999, pp. 606–607; Peng Guangqian and Yao Youzhi, 2005, p. 438.

⁶⁴ Peng Guangqian and Yao Youzhi, 2005, pp. 439–440; Guo Meichu, 2003, pp. 31–33.

TABLE 2.1

From Detection to Strike: U.S. Military Command Cycle, by Conflict

Conflict	Detection to Strike Time (in minutes)
1990–1991 Gulf War	4,320 (3 days)
1999 Kosovo War	101
2001 Afghanistan War	19
2003 Iraq War	12
2011 Libya War	~3

SOURCE: Table features information from Ma Ping and Yang Gongkun, eds., *Joint Operations Research*, Beijing: National Defense University Press, 2013, p. 170.

timing. The PLA also observed the utility of aerial refueling in supporting long-distance mobility operations.

Materiel Consumption

Materiel consumption required by modern warfare had risen exponentially. Not only did weapons platforms themselves become more costly to field, but each platform's costs for high-tech ammunition, fuel, etc. also rose. This, in turn, necessitated effective logistics networks that could resupply and reequip units quickly. The PLA recognized that waging modern warfare was going to be extremely costly in treasure, if not also in blood. Only countries with strong economies could hope to field and sustain modern units on the battlefield. Those without might have to suspend operations shortly after conflict was initiated or possibly even accept defeat because of the economic burden.⁶⁵

Role of New Technology

PLA strategists recognized more thoroughly during the Gulf War the importance of stealth technology, evident on such platforms as the B-2 bomber, and the value of stealthy naval surface warfare ships and materials invisible

⁶⁵ Liu Sheng, Miao Lin, and Zhang Guoliang, 1996, pp. 145–146; Peng Guangqian and Yao Youzhi, 2005, pp. 435, 448–449; Cen et al., 1999, p. 608.

to radar and to the infrared spectrum. The latter are referred to by the PLA as “electromagnetic armor.”

These same strategists also noted the increasing importance that emerging technologies would have on the battlefield. These ranged from the fourth-generation fighter jets with super-cruise ability to the role that exotic “new concept weapons,” such as high-powered lasers and microwaves, would play in future conflicts. Last, the 1999 Kosovo War demonstrated the importance and role of cyber forces, in addition to EW forces, in prosecuting information warfare.⁶⁶

War Initiation

The PLA realized that preparation for war could no longer occur in complete secrecy. Specifically, technology—in the form of modern news media and modern aerospace reconnaissance—prevented clandestine buildups. Yet despite this reality, the actual initiation of war could still occur suddenly and achieve operational and tactical shock. Both the Gulf War and Kosovo demonstrated this reality as both coalitions slowly amassed forces and set deadlines and yet still achieved shock on commencement of hostilities. Even a decade later, the 2008 Georgia conflict provided another shock, as Russia initiated conflict with its southern Caucasus neighbor while the world’s attention was tuned to the 2008 Summer Olympics in Beijing.⁶⁷ All this despite the fact that local wars generally went through various phases before actual conflict commenced, such as international mediation, intensified confrontation, or even peacekeeping.⁶⁸

Mobilization

The Gulf War demonstrated the United States’ strong national defense mobilization capacity. During the Gulf War, the United States delivered 400,000 troops and over 186 million tons of equipment and materiel to Saudi Arabia, a country 15,000 kilometers away from the United States. PLA researchers noted that even with substantial military lift capability, the United States

⁶⁶ Peng Guangqian and Yao Youzhi, 2005, pp. 437–438.

⁶⁷ Shou Xiaosong, 2013, p. 58.

⁶⁸ Peng Guangqian and Yao Youzhi, 2005, pp. 436–437, 445–446.

heavily relied on military and commercial sea and air transport. The ability to ultimately organize and use more than 200 transport and passenger aircraft from 30 different civilian air carriers through the Civil Reserve Air Fleet (CRAF) mechanism highlighted an ability to rapidly augment military airlift capability when needed. Additionally, the PLA noted the use of 43 reserve fleet ships and over 130 civilian ships to augment existing Navy transport and sea-based capabilities.⁶⁹

How the PLA Applied the Lessons That It Learned from the Gulf War

During the Gulf War, the United States and its coalition partners demonstrated several new capabilities that transformed PLA thinking about its own modernization programs and pointed the way to its future. First, PLA researchers highlighted the centrality of what the PLA referred to as *digitalized operations in modern warfare*. Digitalized forces now possessed night vision, electro-optical sensors on missile seekers and satellites, and ISR and early warning network sensors that linked forces across the entire battlefield.⁷⁰ Second, the PLA also recognized the synergistic relationship between U.S. firepower and extended stand-off capabilities, as exemplified by artillery capable of striking targets 70 km away, the multiple launch rocket systems (MLRSs) employed by the U.S. Army that could cover areas of 60,000 km² in a single salvo, and air-launched cruise missiles that could be launched 3,000 km from their targets.⁷¹ Targeting, mass fires, and long-range strike were significantly enhanced by the United States' significant advantages in digitalization. Third, mobility enabled U.S. forces to cover long distances in short periods of time. This capability was epitomized by the tactical maneuver of the XVIII Airborne Corps and 24th Infantry Division's 200-kilometer advance to the Euphrates River in roughly two days and was also demonstrated by the strategic transport of the 82nd Airborne and U.S. Air Force (USAF) units to Saudi Arabia from the U.S. mainland in

⁶⁹ Du, *Lectures on the Science of National Defense Mobilization*, p. 87.

⁷⁰ Liu Sheng, Miao Lin, and Zhang Guoliang, 1996, p. 143; Cen et al., 1999, pp. 602–603; Peng Guangqian and Yao Youzhi, 2005, pp. 437–438.

⁷¹ Cen et al., 1999, pp. 602–603; Guo Meichu, 2003, pp. 48–49.

48 hours.⁷² Finally, the worldwide positioning capabilities of the U.S. Global Positioning System (GPS) satellite constellation enabled maneuver in a featureless desert and directed precision guided munitions to targets beyond visual range.⁷³

PLA strategists also recognized that air power—referred to by the PLA as “air raids”—could achieve strategic objectives.⁷⁴ Based on their analyses of conflicts prior to the Gulf War, PLA strategists did not believe that a quantitatively superior army relying on interior lines of communication could be rapidly defeated by a modern opponent relying on airpower.⁷⁵ As outlined earlier, the lessons regarding air power derived from the Gulf War made the opposite shockingly clear and led to a reassessment of the PLAAF’s importance. The PLA’s existing conceptual model of operations that qualitatively inferior but quantitatively superior forces could fight successfully on Chinese territory against a hypothetical Soviet large-scale offensive had to be completely reworked. This led to the creation of new military doctrine (the PLA’s fourth-generation doctrine), begun in 1995 and completed in 1999, and in turn drove new requirements in training, organizing, and equipping the PLA.⁷⁶ The new doctrine recognized that multidimensional battlefields required joint and combined operations, at the campaign (operational) level of war, using the capabilities of different services and arms.

The PLA recognized that the Iraqi military’s structure was not rationally allocated and was therefore “unbalanced”—a lesson that sparked a range of initiatives to modernize PLA weapons and technology, reorient doctrine, and develop new operational concepts. The PLA realized that it was over-

⁷² Liu Sheng, Miao Lin, and Zhang Guoliang, 1996, p. 143; Peng Guangqian and Yao Youzhi, 2005, p. 438; Cen et al., 1999, pp. 602–603.

⁷³ Liu Sheng, Miao Lin, and Zhang Guoliang, 1996, p. 143; Peng Guangqian and Yao Youzhi, 2005, p. 438.

⁷⁴ Gao Rui, ed., *Science of Strategy*, Beijing: Military Science Press, 1987, pp. 72, 88.

⁷⁵ These included the 1973 Yom Kippur War, the Israeli airstrikes against Syria in the Beqaa Valley (1981) and Iraq’s Osirak nuclear reactor (1981), the 1982 Falklands War, the 1983 Grenada invasion, the 1986 Libya raid, and the 1989 Panama invasion. See, for example, Guo Meichu, 2003, or Cen et al., 1999.

⁷⁶ Ren Jian, ed., *Outline of Operational Doctrine*, Beijing: Military Science Press, 2016, p. 76.

whelmingly ground force–focused and largely ignored air and naval capabilities. The PLA also realized that its force structure was imbalanced in ways similar to the Iraqi military.

How the PLA Applied the Lessons That It Learned from the Kosovo War

The Kosovo War demonstrated to the PLA that wars could be decided with limited ground force participation—a realization that led to a long-term sustained military modernization to revamp the PLAAF, PLAN, and Second Artillery Force (what would later become the Rocket Force) and achieve a peer capability in and around China’s territory. For the Air Force, doctrine for independent strategic operations was developed, and new capabilities, such as multirole fighters (Su-27s), were acquired from Russia and then indigenously reproduced in large numbers to make J-11s.⁷⁷ For the Navy, a development program was embarked upon to revamp the entire surface warfare fleet to become a blue water navy. This led to the indigenous development of modern destroyers, frigates, and eventually cruisers and aircraft carriers to replace an aging and decrepit Soviet-era brown water fleet. The Second Artillery, a PLA branch that had mostly focused on maintaining China’s limited nuclear deterrent, began to substantially grow its arsenal of conventional ballistic missiles and conventional units and develop itself into a majority conventional force.

Seeing that modernization was a daunting and likely decades-long task, the PLA attempted to triage its immediate perceived deficiencies by developing crash programs to wage asymmetric conflict. PLA strategists realized that any conflict with the United States, referred to as the “strong enemy,” would be a conflict that China would have to fight with inferior forces for the foreseeable future. Thankfully for the PLA, the Yugoslav military during the Kosovo War illuminated ways in which inferior forces could blunt attacks by superior forces through undermining situational awareness (e.g., camou-

⁷⁷ Office of the Secretary of Defense, *Annual Report on the Military Power of the People’s Republic of China*, Washington, D.C.: U.S. Department of Defense, 2004.

flage, decoys, dispersion), passive defenses (e.g., hardening, burying), and asymmetric warfare (innovative usage of surface-to-air missiles).⁷⁸

Applying these lessons to itself and seeking to have substantially more success than Belgrade did, the PLA developed a new air defense concept referred to in shorthand as the “Three Attacks, Three Defenses.”⁷⁹ Specifically, PLA strategists and technicians devoted themselves to finding ways for a force to counterattack an adversary’s stealth, cruise missile, and helicopter capabilities while also defending itself from an enemy’s precision strikes, EW, and reconnaissance. If successful, this approach would, in the minds of PLA strategists, narrow a modern adversary’s advantages on the battlefield and allow the PLA to use its quantitative advantages to make up for qualitative deficiencies. “Three Attacks, Three Defenses” would provide both a modicum of strategic deterrence to prevent conflict and even a chance at victory on the battlefield, however remote, should conflict occur.⁸⁰ Thinking on asymmetric warfare evolved further and eventually led to the development and growth of the capabilities that U.S. planners would come to refer to as anti-access area denial (A2/AD), using long-range antiship ballistic missiles, counterspace capabilities, cyber capabilities, and special operations forces (SOF).⁸¹

Last, the Kosovo War had profoundly changed how the PLA understood the nature of warfare in an era when information dominance and information technology were increasingly recognized as the linchpins for victory. Specifically, the conflict planted the seeds for an emerging concept—*system destruction warfare*, a radical departure from the past theory of annihilation

⁷⁸ Office of the Secretary of Defense, 2004; Office of the Secretary of Defense, *The Military Power of the People’s Republic of China*, Washington, D.C.: U.S. Department of Defense, 2005, p. 13.

⁷⁹ Xu Guocheng, Feng Liang, and Zhou Zhenfeng, *Research on Joint Campaigns*, Beijing: Yellow River Press, 2004, p. 267; Guo Meichu, 2003, p. 214.

⁸⁰ Office of the Secretary of Defense, 2005, p. 18; Office of the Secretary of Defense, 2004; Office of the Secretary of Defense, *Annual Report on the Military Power of the People’s Republic of China*, Washington, D.C.: U.S. Department of Defense, 2003, pp. 5, 8.

⁸¹ Peng Guangqian and Yao Youzhi, 2005, p. 440.

warfare.⁸² While many of the specific aspects of the new concept were still to be determined, the PLA fundamentally recognized that military operations were now asymmetric (whether from overall inferiority at a strategic level or from leveraging a local military balance), noncontact (e.g., fought at stand-off ranges and often beyond an adversary's ability to defend against attacking forces), and nonlinear (e.g., targets were simultaneously struck at all depths of the battlefield and the notion of a "front" was increasingly meaningless). Because of these developments, warfare could no longer, as it had for centuries, be characterized as a confrontation between armies, services, or platforms but rather had become a confrontation between opposing operational systems.⁸³

Conclusions

China's historical experiences and the lessons it learned from observing U.S. operations over the past three decades provide an important foundation for understanding how China views the military balance. In many cases, these lessons and experiences are easy for most Western analysts to understand. The development of long-range precision strike capabilities, advanced ISR, command automation, and modern weapon systems are areas that are easily translatable to our understanding of modern conflict. Likewise, areas of U.S. advancement—such as joint operations and such concepts as effects-based and network-centric operations—provide Western analysts general reference points that tie PLA development paths to those followed by other advanced militaries. In the end, physics and geography generally do not offer different interpretations based on historical experiences.

Other areas of China's historical experience and lessons learned are not as readily translatable to Western views on the military balance. Factors such as political work, mobilization, internal stability, reliability, and Party-army relations are not issues dealt with in models, simulations, or wargames and are not generally discussed in any detail in Western analy-

⁸² Peng Guangqian and Yao Youzhi, 2005, p. 447; Guo Meichu, 2003, p. 66.

⁸³ Peng Guangqian and Yao Youzhi, 2005, pp. 52–54, 447; Guo Meichu, 2003, pp. 59–62, 66.

ses of the military balance. However, as this chapter has described, these issues have had a major role in shaping how China views its military capability and its fitness for the future wars for which it believes it must prepare. Likewise, China's war experiences (including its lack of recent experience), geography, resources, and perceptions of national power are all vastly different from those of the United States—a nation that has had access to abundant natural resources, has placed relatively limited emphasis on the need for national mobilization since 1945, and, certainly since the end of the Cold War, does not regularly face existential threats to its political system. Furthermore, the United States has not fought or had territorial disputes with its neighbors, has enjoyed sanctuary provided by two oceans, and has not had to fight on its own soil since the mid-nineteenth century during its own civil war.

Overstating the psychological impact of these experiences could leave one with the impression of China as a country and leadership in constant fear. This definitely is not the case. A more accurate interpretation would be that these experiences—despite having taken place in a China very different from the one that exists today—have left Chinese political and military leaders with a profound understanding that threats to the Chinese homeland, its economic vitality, and political cohesion are very real and must be treated as core features of PLA planning. Ultimately, these historical experiences and lessons learned reflect a series of essential elements that make up what Chinese military science publications refer to as *war potential*—those elements of a nation's material, spiritual, or military power that can be mobilized into actual strengths in crisis or war. They have direct connections to the strategic guidance for China's military modernization and are vital to the military balance. Similarly, the elements of historical experience discussed in this chapter are recurring themes in the PLA's strategic discourse. They provide a framework that shapes how China's political and military leaders view warfare, understand the threats confronting the PRC, and define critical wartime functions and preparations. As a result, these experiences directly inform Beijing's evaluation of PLA capabilities and the U.S.-China military balance.

Preparing the PLA for the “New Era”

The brief discussion at the end of the preceding chapter relates that China applies lessons from history across all areas of its modernization efforts. The PRC’s national history informs its views on the political, economic, and social dimensions of China’s national security and the PLA’s core security functions as a Party army. Recent historical examples of foreign operations have provided the basis for the PLA’s new operational concepts, organizational reforms, and technology modernization. The PLA, as a learning organization, has systematically studied these factors and developed a structured process for how these historical insights inform the PLA’s views on modern warfare and translate into operational concepts and combat methods. As the 2019 Defense White Paper pointed out, “drawing lessons from history, China strengthens its national defense and military.”¹

The PRC’s study and use of history extends well beyond the academic and theoretical realm. The PLA has developed a system of concept development and experimentation that has allowed it to take the broad conclusions of its lessons learned studies and distill them into operational problems that can be studied in depth, experimented with, and, ultimately, turned into operational capabilities tailored to PLA priorities. The development of the PLA’s system of operational experimentation is a prime example of this dynamic. As defined by the PLA, experimentation is a process designed “to study operational issues by using combat simulation tools in a controllable, measurable, approximately realistic, simulated confrontation environment.”² Experimentation has been and remains a critical component of the PLA’s

¹ State Council Information Office, *China’s Defense in the New Era*, Beijing, July 2019.

² Jiang Yamin, 2013.

efforts to informatize, develop its joint operations concepts, and implement systems warfare.³ Accordingly, the PLA has developed an experimentation infrastructure comprising education, test bases and facilities, test programs, and experimental training and exercises—all dedicated to its efforts to practically apply its lessons learned to the PLA's most important operational problems.⁴

Numerous other examples also demonstrate the influence that China's historical experiences and lessons learned have had on PRC leaders and what they view as essential national defense and wartime tasks. NDMS implementation included major investments in an information architecture for managing the overall system, as well as programs to leverage military and civil technologies to identify and track critical resources in China's urban population centers. Civil air defense projects, including major construction and revitalization efforts, are an indicator of the PRC leadership's desire to enhance preparedness in the event of conflict that could include multiaxis, noncontact attacks. Programs to develop National Defense Education and bolster military political work all reflect PRC concerns about maintaining CCP power and authority, reliability within the military and the population, and ensuring unity of national effort if the PRC is faced with a conflict that likely will involve major combat but also the threat of psychological and information warfare presented by the "Three Warfares."

Any attempt to depict China's view of the military balance must consider these factors in some form, or else it runs the risk of focusing too narrowly on areas of force structure, weapons, and organization. These three areas are important—but, given the lessons the PLA has learned from recent wars, they do not cover the entire range of wartime requirements. For this reason, they are an insufficient baseline for understanding how the PLA views its own progress. This is particularly the case when it comes to the PLA's desire to develop a modern operational system-of-systems. This chapter will outline the PRC's own strategic guidance to frame the wide range of areas that the PLA has been directed to address in its development and modernization programs. In it, we rely heavily on *China's Military Strategy* published in

³ Jiang Yamin, 2013.

⁴ Bu Xianjin and Zhang Dequn, 2013.

2015, China’s most recent Defense White Paper published in 2019, and other recent speeches, conferences, and work plans reflecting the guidance of Xi Jinping and other CCP or PLA leaders.

China’s *Military Strategic Guidelines for the New Era*

In his speech delivered at the 19th Party Congress in October 2017, Xi highlighted several of the PLA’s accomplishments during the previous five years. These accomplishments will be detailed in a later chapter that will discuss the PLA’s assessment of its progress in key areas of its modernization; however, one specific accomplishment—indeed, the first one mentioned in his discussion about progress in the “dream of building a powerful military”—was the development of a “military strategy under the new situation.”⁵ This accomplishment referred to the publication of *China’s Military Strategy* in 2015—the first time changes and adjustments to the PRC’s *Military Strategic Guidelines* had been systematically published, according to the Director of the AMS’s National Defense Policy Research Center.⁶

Xi’s 2017 speech to the 19th Party Congress also provided a synopsis of the key missions and tasks that the PLA was being asked to take on to support this new strategy. The thrust of his speech focused on following Party guidance to build a modernized force with efficient joint operations command institutions and a modern combat system with Chinese characteristics (i.e., embodying Chinese strategic culture as well as the PRC’s political and social realities). The four key tasks that Xi outlined in the speech were (1) adapting to the new global military revolution across all areas of modernization, (2) strengthening Party building within the PLA, (3) continu-

⁵ Xi Jinping, “Secure a Decisive Victory in Building a Moderately Prosperous Society in All Respects and Strive for the Great Success of Socialism with Chinese Characteristics for a New Era,” speech delivered at the 19th National Congress of the Communist Party of China, Xinhua, October 18, 2017.

⁶ Luo Zhen, “An Interpretation of the New National Defense White Paper—Strengthening the Military Is the Inevitable Choice for Fulfilling Our Nation’s Great Rejuvenation,” *PLA Daily Online*, May 27, 2015.

ing to implement national defense and military reform, and (4) preparing the military to improve its readiness in all strategic directions and develop its capabilities for actual combat.⁷ Each of these four areas entailed a wide range of specific subtasks that included the development of informatization, personnel, training, and national defense mobilization, among a range of other priorities. The key factor that stands out from this speech is the broad scope of the PLA's modernization agenda and the importance of factors—such as political work—that generally are often not considered when discussing the U.S.-China military balance.

The 2015 publication of *China's Military Strategy* marked the first change to the PRC's *Military Strategic Guidelines* since the enhancement delivered under Hu Jintao in 2004. A subsequent reference to military strategic guidelines emerged with the 2019 Defense White Paper, titled *China's National Defense in the New Era*. This white paper referred to implementing the *Military Strategic Guidelines for the New Era*, suggesting an update to the 2015 military strategy's characterization of the “new situation.”⁸ The brief discussion in the white paper addressed many of the broad topics outlined in *China's Military Strategy* and emphasized the need for the PLA to “actively adapt to the new landscape of strategic competition, the new demands of national security, and new developments in modern warfare.”⁹ While the white paper may serve as an update to Beijing's broad understanding of the international security environment, it does not appear that the main modernization priorities highlighted in the 2015 *China's Military Strategy* publication have been superseded.¹⁰

China's Military Strategy provides a detailed encapsulation of Xi's vision for military modernization and reform. The strategy followed several key statements from Xi at previous Party gatherings and served as a precursor

⁷ Luo Zhen, 2015.

⁸ State Council Information Office, 2019.

⁹ State Council Information Office, 2019.

¹⁰ Office of the Secretary of Defense *Annual Report to Congress on Military and Security Developments Involving the People's Republic of China 2019*, Washington, D.C.: U.S. Department of Defense, 2019, pp. 26–27 and *Annual Report to Congress on Military and Security Developments Involving the People's Republic of China 2020*, Washington, D.C.: U.S. Department of Defense, 2020, pp. 26–27.

to the sweeping PLA reform that was announced at the end of 2015 and implemented in 2016.¹¹ Judging by its central importance, PRC evaluations of its military modernization and the U.S.-China military balance should be centered on the criteria outlined in *China’s Military Strategy*. This study will examine what PLA statements on its military progress suggest about its views on the military balance. *China’s Military Strategy* presents four sections—strategic tasks, the principles of active defense, the key elements involved in building and developing China’s armed forces, and preparations for modern combat—each of which has been influenced by the PLA’s historical experience and lessons learned.¹² As with any military endeavor, capabilities assessments are judged relative to some task or adversary. PLA lessons learned studies clearly demonstrate that the United States has played an outsized role in shaping PLA thinking about requirements for future war. The American military serves as a benchmark for such critical concepts as informatization, joint operations, noncontact warfare, and systems warfare.

This report will use the criteria outlined in the subsequent four sections—Strategic Tasks, Principles of Active Defense, Building and Developing Armed Forces, and Preparing for Military Struggle—as the primary filter for PLA self-assessments and a baseline for those areas that are important to PRC leaders in their pursuit of a modern, capable military. In many cases, programs, projects, or self-assessments will address a specific piece of guidance outlined in *China’s Military Strategy*. In others, they speak to a broad cross-section of individual pieces of guidance, such as command abilities, Party loyalty, or combat proficiency. In either circumstance, a clear discussion and outline of each of these four elements of *China’s Military Strategy* is critical for identifying the PRC’s criteria for successful modernization and the development of a modern military with Chinese characteristics.

Strategic Tasks

One of the key stipulations driving the PLA’s strategic tasks is the requirement to “work harder to create a favorable strategic posture with more

¹¹ State Council Information Office, 2015.

¹² State Council Information Office, 2015. The report is structured based on these four areas. This report will apply them accordingly.

emphasis on the employment of military forces and means” and to “provide a solid security guarantee for the country’s peaceful development.”¹³ Taking into account changes in military affairs, the strategy calls for the PLA to develop capabilities to address challenges in new security domains and to “seize the strategic initiative in military competition.”¹⁴ The strategy also calls for the PLA to participate in both regional and international security cooperation to secure China’s growing overseas interests and also to continue reform, deepen CMF, and continue to maintain social stability by upholding the CCP’s authority. Drawing on this guidance, *China’s Military Strategy* lists eight strategic tasks for China’s armed forces:¹⁵

- Deal with a wide range of emergencies and military threats and effectively safeguard the sovereignty and security of China’s territorial land, air, and sea
- Resolutely safeguard the unification of the motherland
- Safeguard China’s security and interests in new domains
- Safeguard the security of China’s overseas interests
- Maintain strategic deterrence and carry out nuclear counterattack
- Participate in regional and international security cooperation and maintain regional and world peace
- Strengthen efforts in operations against infiltration, separatism, and terrorism so as to maintain China’s political security and social stability
- Perform such tasks as emergency rescue and disaster relief, rights and interests protection, guard duties, and support for national economic and social development.

These tasks, according to the strategy, are responses to a wide range of geographic and historical factors that have grown increasingly complex in recent years. Due to this complexity, the armed forces’ strategic tasks entail

¹³ State Council Information Office, 2015.

¹⁴ State Council Information Office, 2015.

¹⁵ State Council Information Office, 2015.

both internal and external security threats, as well as both traditional and nontraditional security challenges.

Principles of Active Defense

The strategic concept of active defense has been a core element of Chinese strategic thought since the PRC’s founding. This body of thinking is summed up in the military strategy as “adherence to the unity of strategic defense and operational and tactical offense; adherence to the principles of defense, self-defense and post-emptive strike; and adherence to the stance that ‘We will not attack unless we are attacked, but we will surely counter-attack if attacked.’”¹⁶ The strategy explains that China’s armed forces will continue to adhere to the active defense concept but adapt it to the new situation to “balance war preparation and war prevention, rights protection and stability maintenance, deterrence and war fighting, and operations in wartime and employment of military forces in peacetime.”¹⁷

China’s Military Strategy also details three imperatives for implementing active defense. The first imperative is to adjust the PLA’s focus on PMS to emphasize “winning informatized local wars” and the increasingly central role that the maritime domain will occupy in future wars. In addition, China’s armed forces will have to prepare and maintain readiness to respond to and control major crises, respond to chain reactions, and protect China’s territorial sovereignty, integrity, and security.¹⁸

The second guideline is for the armed forces to innovate basic operational doctrines to respond to threats from different directions and domains. Underpinning doctrinal innovation are the principles of “flexibility, mobility, and self-dependence,” with an understanding that Chinese operational innovation and employment will be based on the maxim “you fight your way and I fight my way.” *China’s Military Strategy* also directs these doctrinal innovations to address the requirement for integrated combat forces

¹⁶ State Council Information Office, 2015.

¹⁷ State Council Information Office, 2015.

¹⁸ State Council Information Office, 2015.

capable of conducting systems warfare that will be characterized by information dominance, precision strike, and joint operations.¹⁹

The last of the three imperatives for implementing the active defense concept outlined in *China's Military Strategy* is for China's armed forces to "optimize the military strategic layout." China's complex geography and geostrategic environment have made it necessary for the PLA to plan its strategic deployment and military disposition in a manner that can "clearly divide areas of responsibility" for PLA forces and enable them to operate as a mutually supporting, organic whole.²⁰ Similarly, an optimized strategic layout also requires preparations and development of capabilities necessary to combat threats in all domains and for deployment to protect China's overseas interests.

In addition to these imperatives, the military strategy also outlined several principles of active defense for China's armed forces, many of which build on the themes associated with the three imperatives. Overall, strategically the active defense principles outlined in the military strategy direct the PLA to subordinate itself to national strategic goals and to promote a posture favorable to the PRC's economic and social development goals while adhering to the defensive nature of active defense. The strategy also highlights the People's War concept as a core principle and directs the PLA to continue its efforts to develop its focus on war mobilization across the spectrum from human resources to science and technology. Operationally, the principles direct the PLA to prepare for military struggle in all directions and domains by employing flexible CONOPs that can deal with complex and difficult scenarios. Last, from a political and social standpoint, *China's Military Strategy* also argues that China's armed forces have a "unique political advantage" emanating from the CCP's leadership of the military and calls for the military to focus on the "cultivation of fighting spirit, enforce strict discipline, improve the professionalism and strength of the troops, build closer relations between the government and the military as well as

¹⁹ State Council Information Office, 2015.

²⁰ State Council Information Office, 2015.

between the people and the military, and boost the morale of officers and men.”²¹

Building and Developing Armed Forces

The PRC’s implementation of its military strategic guidelines is centered on building an informatized military capable of winning informatized wars. To accomplish this requires development of each of the services in independent but interrelated areas. The first area is the development of the services and arms of the PLA and People’s Armed Police (PAP). Each of the services is given specific developmental guidelines focused on core missions, such as elevating capabilities for “precise, multi-dimensional, trans-theater, multi-functional and sustainable operations” (PLA Army), shift of focus from “offshore waters defense” to the “combination of ‘offshore waters defense’ and ‘open seas protection’” (PLAN), shifting “focus from territorial air defense to both defense and offense” while also building a force structure for informatized operations” (PLAAF), and developing a lean and effective missile force with both nuclear and conventional missiles” (People’s Liberation Army Rocket Force [PLARF]).²² Similarly, in a second requirement, the military strategy also outlines the need to develop capabilities in space, cyberspace, and nuclear forces to meet the security requirements in critical domains.

In addition to the concept and domain-driven elements of the first two areas for building and developing armed forces, the third area of military force-building measures deals largely with people and capabilities. The first issue highlighted as part of military force-building is strengthening ideological and political work. The strategy highlights that China’s armed forces have always treated ideological and political work as the first priority and will continue to do so in the new situation by emphasizing the CCP’s absolute leadership over the military.²³ Closely related political work will also seek to “enhance the creativity, cohesion and combat effectiveness” of CCP organizations at all levels. Other areas critical to the military force-building

²¹ State Council Information Office, 2015.

²² State Council Information Office, 2015.

²³ State Council Information Office, 2015.

task include logistics modernization, development of advanced weapons and equipment, cultivation of military personnel, enforcement of discipline, innovation in military theories, and improvement of strategic management.

The final critical task is the development of CMF. The focus for the effort overall is to integrate civilian and military development and production in a manner that enhances civilian support to the military. *China's Military Strategy* directs that this be done by accelerating CMF in key sectors by establishing uniform civil and military standards for infrastructure, key technology areas, and major industries. Furthermore, there should be a state-level mechanism for CMF development with unified leadership, military-civil coordination, and resource sharing. Last, this task involves improving the NDMS by enhancing National Defense Education and building and developing the resources and processes necessary to ensure effective mobilization across all areas of the NDMS.

Preparing for Military Struggle

The final development area our study will focus on to gauge PLA views of the military balance is the direction given to the PLA to prepare for military struggle, which is intended to ensure that the PLA is practically prepared for both deterrence and warfighting. More bluntly, this developmental area is included to ensure that the PLA has developed the capabilities necessary to fight and win informatized wars. This section carries on other themes from earlier sections in *China's Military Strategy* but highlights five essential areas, including the enhancement of systems warfare capabilities, preparation for military struggle in all domains, maintenance of constant combat readiness, enhancement of realistic military training, and preparation for military operations other than war. For each of these areas, there is ample discussion in PLA sources about both progress and continued challenges.

China's Systems Warfare Concept

Judging from its ubiquity in the Chinese Professional Military Education (PME) available to Western researchers, China's commitment to a systems approach for waging and winning modern warfare is unquestioned. The literature covers strategic and tactical considerations and includes high-level

theory and lower-level foundational writings that appear designed to educate up and down the PLA hierarchy. This section focuses on the operational level of warfare and attendant systems and subsystems that have received the PLA's attention.²⁴

The terms *informatized* and *informatization* are so commonly used in primary sources and Western analyses of the PLA as to have lost clear meaning. When referring to operations, this shorthand, in fact, refers to the PLA's formal construct “Information System–based System of Systems Operations.” PLA authors have described their systems operations as “basically identical or similar” to the Western concept of *network-centric warfare*.²⁵ Whether their understanding of net-centric warfare is accurate or not, their judgment of the centrality of information is clear: “System operations based on the information system have become a basic pattern of joint operations under informatized conditions, and information capability has become the primary capability in joint operations.”²⁶ The AMS 2013 version of *Science of Strategy* distilled the rationale for taking a systems-based approach as follows: “The essence of system-of-systems confrontation is . . . to view the enemy as an organic integrated-whole . . . focus on vital points . . . and implement precision strikes to trigger the enemy's system-of-systems to break down by linkage causing a sharp decline in its integrity, ability, stability and equilibrium, so as to further paralyze its structure, disarrange its programs, and weaken its functions.”²⁷ These ideas are also reflected in the PLA NDU's 2020 edition of *Science of Strategy*, demonstrating the longevity and centrality of systems warfare as an organizing principle for the PLA's future development.²⁸

To address how the PLA's views on its systems warfare capabilities factor into assessment of the military balance, it is necessary to consider

²⁴ For a broader discussion of operational systems, see Engstrom, 2018.

²⁵ Wang Wowen, “Information Capability: Primary Capability of Joint Operations—Interview with Kuang Xinghua, Professor and Doctoral Adviser at the National Defense Science and Technology University,” *PLA Daily*, May 27, 2010.

²⁶ Wang Wowen, 2010.

²⁷ Shou Xiaosong, 2013, p. 93.

²⁸ Xiao Tianliang, ed., *Science of Strategy*, Beijing: National Defense University Press, 2013, pp. 344–348.

two important factors. The first is the overarching strategic thought driving the PLA's push to develop its systems warfare capabilities. The second is how those thoughts are applied practically to operations. As the previous sections on strategic guidance demonstrate, the PLA has been directed to prepare for military struggle and to "fight and win informatized wars."²⁹ Since the 2004 adjustment to China's military strategic guidelines, the PLA has understood that future conflicts most likely would involve fighting local wars under the conditions of informatization. From a general standpoint, one influential PLA author heavily involved in leading-edge thinking on the PLA's systems warfare concepts has noted that "joint operations is the *basic pattern and form* of informatized local wars, and systems warfare is the *basic method* of informatized local wars."³⁰ The relationship between the two becomes apparent if we consider the chronology of when they were developed. Joint operations theory was published in 2000, integrated joint operations experimentation began in 2001, and the PLA completed the first phase experiments in 2005. Shortly after these experiments were completed in 2005, Hu Jintao directed the All-Army Conference to focus its efforts on "information systems-based system-of-systems operations." The chronological proximity and conceptual overlap of these efforts are evidence that three major concepts are at the center of PLA operational thought, guiding its views on systems warfare.

Informatization

Informatization has reshaped military operations and is the cornerstone of the PLA's military strategic guidelines and PLA preparations to fight and win local wars under informatized conditions since 2004. Having observed the United States' success in Iraq, Kosovo, and Afghanistan, the PLA realized that future combat would depend on the acquisition and dissemination of vast quantities of high-fidelity information using advanced information technology and automated command systems. Likewise, state-of-the-art information architectures would enable the fusion, data sharing, and decision support necessary for both joint operations and systems war-

²⁹ State Council Information Office, 2015.

³⁰ Wang Yongnan, 2015, p. 23.

fare. Broadly, the PLA views informatization as a core requirement for ISR operations, long-range precision strike capabilities, multidomain offense and defense, long-range mobility and maneuver, and enhanced logistics and support.³¹ The combination of speed, accuracy, and precision with which information can be made available to all services and operational units is the factor driving the PLA toward its goal of developing integrated joint operations and fulfilling the imperative for systems warfare.

Joint Operations

Informatization is a necessary first step for developing an integrated joint operations capability. The PLA has recognized the importance of joint operations since the United States’ victory in Iraq in 1991. Since then, PLA experts have pointed out that “joint operations is the *basic pattern and form* of informatized local wars.”³² More specifically, PLA leaders recognize the importance of using the specialized capabilities of all services in unified action to deliver more efficient and effective combat effects. This realization is embodied in *China’s Military Strategy* published in 2015. In this document, the PLA is directed to prepare for military struggle, and gradual establishment of an integrated joint operational system in which all services are “seamlessly aligned and various operational platforms perform independently and in coordination” is a core element enhancing the PLA’s capabilities for “system-of-system operations based on information systems.”³³ PLA action over the past two decades demonstrates the importance of joint operations in the PLA’s future concepts of operation and planning at the strategic, operational, and tactical levels.

Systems Warfare

Early senior-level direction to the PLA regarding systems warfare came from Hu Jintao at the PLA’s All-Army Conference in December 2005. Hu stated that the development of system-of-systems theory and experimen-

³¹ Shou Xiaosong, 2013, p. 95.

³² Wang Yongnan, 2015, p. 23.

³³ State Council Information Office, 2015, p. 11.

tation with new operational concepts built on these theories would be a core part of the PLA's informatization.³⁴ Subsequent texts written by PLA experts affirm this connection, following several years of experimentation, by arguing that systems warfare "is the *basic method* of informatized local wars" and "the basic means of informatized joint operations."³⁵ Indeed, one PLA expert affirmed that "both concepts are highly interdependent and cannot be separated," and both need to be analyzed through different substantive frames. He went on to explain that joint operations deals with relationships between different branches of the military by enabling unified, integrated action that takes advantage of each service's core competencies.³⁶ Systems warfare, on the other hand, is focused on structural and functional issues, particularly the means by which individual units are integrated into an operational system and their capabilities tailored to achieving a specific objective.³⁷

Along with integrated joint operations, systems warfare is the first requirement outlined in *China's Military Strategy* under "preparation for military struggle" and comprises a wide variety of priority areas the PLA is directed to improve, including efficient use of information resources, ISR, early warning, C2, long-range precision strike, and comprehensive support.³⁸

Applying Joint Operations and Systems Warfare in Operations

Although these concepts are all foundational and reflect the PLA's highest priorities, they remain high-level thought and without the detail necessary for developing a warfighting concept to counter and defeat them. More specifically, each of these concepts as generally discussed lacks specificity on

³⁴ Ren Liansheng, 2010, p. 26.

³⁵ Wang Yongnan, 2015, pp. 23–25.

³⁶ Wang Yongnan, 2015, p. 23.

³⁷ Wang Yongnan, 2015, p. 23.

³⁸ State Council Information Office, 2015, p. 11.

how it is applied operationally—a detail required to understand how PLA operational concepts are organized and directed in wartime conditions. To meaningfully apply informatization, joint operations, and systems warfare to our analysis of Chinese views of the military balance, these concepts must be brought down a level from PLA strategic thought and tied to existing PLA practices. For its part, informatization is a baseline condition that is manifested in joint operations and systems warfare. It does not have a specific practical application on its own and should be considered as an essential underlying factor in all discussions of PLA capabilities and operations. Joint operations and systems warfare, on the other hand, have been central to PLA experimentation and operational planning for nearly two decades. As a result, these two concepts provide a more concrete framework for analysis.

Joint operations and system warfare are applied to PLA operations in the forms of PLA joint campaigns and new operational concepts. Although the manner in which the PLA applies these concepts continues to evolve, their application is the outcome of a long-term iterative process that has not been prone to major shifts or wholesale redirection of priorities and development efforts. This point is critical to understanding how the PLA has gone about building its operational system-of-systems over time and tailored it to meet its strategic objectives and operational requirements. The PLA's emphasis on preparing for military struggle has led to the development of theater commands capable of maintaining high readiness for “chain reactions” or territorial disputes that may arise in any strategic direction.³⁹ While Taiwan remains the PLA's primary strategic direction, China's leaders have recognized the need to be ready to fight in an increasing number of potential contingencies.⁴⁰

For this reason, the PLA has designed its joint campaigns and operational concepts for use in a variety of operational scenarios, against any adversary and across all domains. These two constructs provide the building blocks of all PLA operational plans and the operational and tactical methods used within those plans. Regardless of the operational scenario,

³⁹ State Council Information Office, 2015.

⁴⁰ Xiao Tianliang, 2013, p. 118.

there will be common characteristics and imperatives that guide PLA operational planning across all its theater commands and associated strategic directions. A comprehensive systems-based assessment of the military balance must begin with these two factors as its basis.

Joint Campaigns

The PLA's approach to operationalizing joint operations involves organizational, functional, and technological components. The organizational and functional components are found in the PLA's joint campaign construct, while the enabling technical component centers on a command information architecture built around an integrated command platform (ICP). According to Chinese PME materials, joint campaigns provide "unified command by a joint command institution in a theater or temporarily organized and built, and jointly conducted in a temporarily designated operations area by a joint large formation composed of a certain number of high-level campaign large formations and other operational strengths of one or two or more theaters and of two or more services."⁴¹ In particular, regardless of the functional purpose behind a specific campaign (i.e., firepower strike, blockade, island offensive, border counterattack, air defense, or antilanding), a core set of principles and operational activities are common across all campaigns. As the PLA has modernized and built its operational system over the past two decades, it has attempted to build a common joint campaign framework capable of providing a basis for different types of campaigns required for a variety of potential local war scenarios. The PLA classifies its campaigns according to four central criteria: campaign type, scale, strength, and pattern.⁴² Understanding the common features resident in each PLA campaign is essential to building a warfighting concept applicable to the widest range of potential conflict scenarios possible.

The PLA breaks down joint campaigns into two fundamental types: offensive and defensive campaigns.⁴³ The key difference between these two

⁴¹ Li Yousheng, *Lectures on the Science of Joint Campaigns*, Beijing: Military Science Press, 2012, p. 25.

⁴² Li Yousheng, 2012, p. 24.

⁴³ Li Yousheng, 2012, p. 25.

categories is the extent to which initiative is involved. For offensive campaigns, PLA PME materials refer to “initiative-based attacks” as critical to achieving wartime objectives. Conversely, defensive campaigns are more focused on a wider range of potential adversary actions that may involve extended periods of more passive defensive action until the enemy ceases attacks or conditions improve and momentum begins to shift.

The secondary category of joint campaigns is dictated by campaign size.⁴⁴ The PLA distinguishes its joint campaigns as falling into one of three different categories of size: large-scale (theater), medium-scale (theater direction), and small-scale (group-army level). Beyond the number of forces and service composition of joint campaigns, the distinctions among these three categories are critical to understanding the systemic functioning of each. Large-scale joint campaigns are generally directed from a theater command and are the central focus in achieving a war’s overall strategic goal.⁴⁵ PLA publications frequently use island blockade campaigns and island offensive campaigns as the prime examples of large-scale joint campaigns. Per PLA guidance, these campaigns should be planned and commanded by standing theater commands. Medium-scale campaigns are conducted in a “certain operational direction of the theater” and, in many scenarios, will be components of large-scale (theater) joint campaigns.⁴⁶ Temporary command institutions control both medium- and small-scale joint campaigns, with both likely activated by a theater command for specific tasks. The PLA literature on campaigns primarily focuses on the size of the force involved and the nature of the task. For instance, a border defense campaign—one of three joint defensive campaigns—is categorized as a likely medium-scale campaign and, in a major conflict, would probably fulfill the role of protecting against “chain reactions” or attacks by opportunistic enemies.⁴⁷ Finally, the PLA’s Yijiangshan operation in the 1950s is listed as an example of a small-

⁴⁴ Li Yousheng, 2012, p. 25.

⁴⁵ Liu Wei, 2016, p. 11.

⁴⁶ Li Yousheng, 2012, p. 25.

⁴⁷ Shou Xiaosong, 2013, pp. 117, 252.

scale joint campaign, suggesting that PLA operations directed against specific subobjectives in a larger conflict would fall into this category.⁴⁸

Joint campaigns are also characterized by two closely related categories—operational strengths and operational patterns. Campaign operational strength generally revolves around the service components involved in a campaign and the specific warfare specialties required for a particular campaign pattern. All six campaigns are functionally oriented—border defense, air defense, antilanding, firepower strike, island blockade, and island offensive—and will require force mixes tailored to specific domains dictated by the operation. Ultimately, a joint campaign's operational strength and patterns are intertwined. A critical recent line of PLA thinking and research, however, is concerned with improving the PLA's ability to generate the forces necessary for a joint campaign and its subcomponents.⁴⁹ Likewise, the PLA has experimented with "new-type operational forces" and designed new concepts of operation capable of functioning within the PLA's joint campaign structure.⁵⁰ For this reason, the PLA's CONOPs are a critical component for operationalizing China's systems warfare concepts and embedding them into PLA campaign-level planning and operations.

⁴⁸ Li Yousheng, 2012, p. 25. See also Wang Houqing and Zhang Xingye, 2006 edition, p. 280. According to the authors, "In January 1955, the landing campaign of the People's Liberation Army of China to liberate Yijiangshan Island was the first successful joint campaign conducted by the Army, Navy, and Air Force against the enemy-occupied offshore islands."

⁴⁹ Guo Ruobing, Zhang Xianguo, and Li Jingwei, "Study on Basic Issues of Accelerating Transformation of Combat Power Generation Model," *Military Science*, No. 1, 2012; Shi Zhongwu, "Scientific Guidance for Promoting Transformation of Armed Forces' Combat Power Mode: Study on Hu Jintao's Important Exposition on Accelerating Transformation of Combat Power Generation Model," *China Military Science*, No. 1, 2012; Wang Qingyu, Liu Dongyun, and Guo Weihao, "Strategic Considerations on Army's Acceleration of Transformation of Combat Power Generation Model," *China Military Science*, No. 1, 2012.

⁵⁰ Xiao Tianliang, 2013, p. 345. The subject of "new type operational forces" extends back several years. See Jia Xiaowei, "Strategic Considerations on Promoting the Building of PLA's New Type Operational Forces," *China Military Science*, No. 3, 2013; Zhang Hong and Zhao Yu, "Forge New Type of Operational Force Capability System Based on Information System," *Military Science*, Vol. 5, 2010; Li Yun, "PLA Quickens the Pace of Exploring the Innovation of Battle Methods for New-Type Combat Forces," *Xinhua*, April 26, 2013.

Concepts of Operation

The PLA has spent considerable time developing its joint campaign architecture along with its overarching concept of integrated joint operations; however, it has made considerably less progress on distilling the fundamental guiding thoughts and principles of systems warfare into practical use.⁵¹ One of the PLA’s most significant efforts to operationalize its systems warfare theory came in a series of operational concepts described in 2013 as the “Four Types of War”: (1) collective warfare, (2) control warfare, (3) target-centric warfare, and (4) information-firepower warfare.⁵² Since then, the PLA has published multiple military science research books detailing the connections between systems warfare, specific CONOPs, and joint operations. These works have also discussed the important relationships between systems warfare—particularly its role in the PLA’s newest CONOPs—and the PLA’s current joint campaign construct.

In practical terms, operational concepts such as collective warfare, target-centric warfare, and vital point-controlled annihilation warfare represent the operationalization of systems warfare and form a comprehensive set of operational concepts from the strategic down to the tactical level, respectively. As one authority on system warfare, Wang Yongnan, explained, “target-centric warfare is a new operational concept and strategy” that “is subordinate to and a concrete manifestation of systems warfare thought.”⁵³ Similarly, another PLA work on new CONOPs said that “the key points of key annihilation and control warfare are closely related to tactical targets, and they have become concrete representatives of the use of target-centric warfare in the tactical field.”⁵⁴ The PLA’s progress on these new CONOPs appears to be in an early stage as experimentation and training continue across the force. What this body of literature does make clear, however, is that there is an imperative for improving PLA systems warfare capabilities,

⁵¹ Wang Yongnan, 2015, p. 1.

⁵² Wang Yongnan, 2015.

⁵³ Wang Yongnan, 2015, p. 25.

⁵⁴ Qian Weichao and Yi Xiaoming, *Vital Point-Controlled Annihilation Warfare*, Beijing: National Defense University Press, 2015, p. 8.

namely by further developing its force to be capable of executing these core operational concepts.

Informatization and Systems Warfare

The PLA's guiding concept that links systems warfare and informatization entails "collective operations, asymmetric strikes, and paralyzing the enemy's system."⁵⁵ PLA researchers argue this can be done through a combination of military, political, diplomatic, and economic actions designed to target an enemy's strategic and operational systems using coordinated "front and rear units in every domain to strike the enemy operational system's critical nodes and weak links, rapidly winning victory and energetically subduing the enemy, rapidly paralyzing the enemy's whole operational system, effectively overawing the enemy and reducing his will to fight, and achieving operational objectives."⁵⁶ Despite serving the PLA's guiding concept, many of these areas remain in varying stages of conceptual maturity and practical implementation; however, PLA concept development at all levels reflects these core ideas, making them a useful means for understanding how Chinese leaders view the efficacy of their joint capabilities.

The three components contained in this guiding thought—"collective operations, asymmetric strikes, and paralyzing the enemy's system"—provide the basis for the PLA's "Four Types of War." "Collective operations" refers to the need to develop a range of interconnected operational systems that can work cooperatively, coordinate the combination of military and nonmilitary measures outlined above, and achieve the PRC's desired war outcomes. For that reason, the ability to command at all levels—supported by command automation systems, including the integrated command platform and various tools used for intelligence fusion, decision support, logistics management, mobilization management, and targeting—is vital to managing and harmonizing the vast number of actions that constitute collective operations in a likely PRC war plan. "Asymmetric strikes" are enabled by a thorough understanding of the enemy's operational system and focused on

⁵⁵ Wang Yongnan, 2015, p. 66.

⁵⁶ Wang Yongnan, 2015, p. 66.

attacking key vulnerabilities, weakening the enemy’s operational strength, capabilities, and potential by applying resources as efficiently as possible. “Paralyzing the enemy’s systems” centers the tailored application of force to reduce key areas of an enemy’s functionality and gain initiative and control of battlefield developments.⁵⁷ The elements of this guiding concept take on added importance because key PLA researchers acknowledge that “there is still a large gap between our forces and those of our adversaries, and it will be difficult for our operational system to meet theirs in open conflict.”⁵⁸

Another area that has been discussed regularly in PLA writings is the idea of “control,” most often in the context of “war control.” As noted earlier, operational concepts under the “Four Types of War” include control warfare. It is uncertain at this time how this particular element aligns with other PLA operational concepts, but its connection to many current themes in PLA thinking—systems warfare, informatization, the “Three Warfares,” and psychological warfare—suggests that at some level the theoretical work has had an influence on multiple current PLA concepts. Going by the available sources, it is difficult to understand whether “war control” and “control warfare” are distinct concepts. What appears to be the case is that *war control* is the high-level PLA concept concerned with controlling the scope, scale, and pace of war.⁵⁹ It is primarily concerned with preventing and deterring conflict and controlling escalation in crisis and/or war, and its success depends on information dominance. In contrast, *control warfare* appears to be the operational concept (composed of guiding principles, core elements, and specific types of actions) designed to ensure war control. PLA texts have noted that the struggle for control in modern warfare is an intense, multi-domain effort requiring well-planned timing and sequencing.⁶⁰ Ultimately, control warfare is intended to ensure readiness across the peacetime-to-wartime spectrum through the development of a capable military system, an effective system for integrating and mobilizing military-civil resources, and

⁵⁷ Wang Yongnan, 2015, p. 67.

⁵⁸ Wang Yongnan, 2015, p. 69.

⁵⁹ See Burke et al., 2020, pp. 9–10.

⁶⁰ Wang Yongnan, 2015, p. 68; Wang Xixin, “Further on War of Control,” *China Military Science*, No. 2, April 2014, pp. 58–66.

comprehensive planning for a range of military and nonmilitary actions.⁶¹ The connection between control warfare, systems warfare, and informatization is explicit, requiring a “controllable military force system” comprising the following: (1) joint command capabilities, (2) comprehensive and multidimensional information awareness, (3) rapid response capabilities, (4) a “system sabotage” precision strike capability, (5) nonlethal, soft-kill capabilities, and (6) “real-time efficient” C2 capabilities.⁶² The development of the full range of control warfare capabilities will provide senior political leaders and military commanders with the means for deterring and, in the case deterrence fails, provide a tailored, rapid response that will use the least amount of resources to achieve the PRC’s political objectives.

Understanding the specific role that control warfare plays in the PRC’s overall systems warfare concept certainly will require additional research; however, there have been extensive PLA studies published on other operational concepts, such as collective warfare, target-centric and information-firepower warfare, and vital point-controlled annihilation warfare.

Collective Warfare

Collective warfare is a set of strategic actions that “seek to achieve political victory peacefully by developing and relying on their comprehensive national strength” by using political, economic, cultural, diplomatic, and military tools as part of a “composite, confrontational operation.”⁶³ Collective warfare is typically reactive and requires a high level of orchestration from national leadership.⁶⁴

⁶¹ Wang Xixin, 2014.

⁶² Wang Xixin, 2014.

⁶³ Wang Yongnan, 2015, p. 25.

⁶⁴ Meng Xiansheng and Wu Fangze, *Grand Strategy Conflicts: Collective Warfare*, Beijing: China Youth Publishing House, 2006, p. 46.

Target-Centric Warfare and Information-Firepower Warfare

Target-centric warfare is an operational concept that “involves use of integrated electronic information systems for support and targets as a guide in order to place ‘targets’ at the heart of organizing and planning operational actions” by using elite, dispersed force groupings that are tailored for specific missions and rapidly achieving operational objectives.⁶⁵ This concept centers and requires the use of advanced ISR and command automation systems to “comprehensively, accurately discover, position, identify, select, and strike targets” in the most efficient manner possible.⁶⁶ In particular, the intent behind these operations is to avoid major attrition-type battles by selecting critical targets and tailoring force groupings according to the specific action required or the necessary level of damage needed to achieve operational objectives. Its primary actions involve precision strikes, blockading or controlling operations, seizing key facilities (e.g., airports or ports), and defending vital targets and key nodes in the PLA’s own operational system.

Under the “Four Types of Warfare,” target-centric warfare and information-firepower warfare are distinct concepts; as described in PLA sources, information-firepower warfare is likely an element of multiple concepts. In particular, *target-centric warfare* is an umbrella concept that involves multiple forms of warfare: (1) information-firepower strikes, (2) multidimensional assaults, (3) integrated network-EW destruction, (4) special operations raids, and/or (5) psychological operations (PSYOP).⁶⁷ Specific combinations of these forms of warfare are dictated by a variety of factors—operational objective, target type, damage requirements, time constraints, etc.—and require a flexible command system capable of making quick decisions on force generation, assessing the degree to which attacks have satisfied objectives, and ordering reattacks if necessary. The ability to rapidly generate the required force groupings and assess their overall effectiveness is critical to the success of this operational concept.

⁶⁵ Dong Lianshan, 2015, p. 3.

⁶⁶ Dong Lianshan, 2015, p. 5.

⁶⁷ Dong Lianshan, 2015, p. 141.

Vital Point–Controlled Annihilation Warfare

Vital point–controlled annihilation warfare is the tactical application of target-centric warfare, which generally is applied at the campaign level. Both concepts are closely related and focused on ensuring the optimum selection of targets and application of force to meet operational objectives.⁶⁸

Systems Warfare Operational Logic Applied

When considering an invasion of Taiwan, the PLA conceptualizes the euphemistically named “large-island joint offensive campaign,” as the campaign it would conduct to conquer the island. This massive military campaign includes the following major operations: (1) landing operations on Taiwan in the face of Taiwanese opposition, (2) operations to seize or neutralize near shore islands (e.g., Jinmen and Matsu), (3) operations to seize islands in the Taiwan Strait (i.e., the Penghu islands), (4) “on-island” operations, or operations throughout the depth and breadth of Taiwan to seize territory on the island in a variety of environments (e.g., urban, mountain), and (5) defending the newly conquered territory, if necessary, from the intervention of a “strong enemy,” a euphemism for the United States, through coastal defense operations.⁶⁹

Each of these operations has associated actions that must be successfully conducted, either in parallel or sequentially, to achieve the operation’s objectives. These objectives are specifically referred to in PLA literature as “operational purpose.”⁷⁰ Each of these actions is, in turn, conducted by subsystems of the broader operational systems they belong to, such as the landing operations system or the joint firepower strike system.

In theory, the exact composition of a specific operational system carrying out operational actions is highly tailored and flexible. It is based foremost on the specific mode or modes by which PLA operational commanders choose to

⁶⁸ Qian Weichao and Yi Xiaoming, 2015, p. 11.

⁶⁹ Cao Zhengrong, Sun Longhai, and Yang Ying, 2014, p. 111.

⁷⁰ “Operational Purpose,” in *PLA Military Terminology*, Beijing: Military Science Press, 2011, p. 64.

carry out a particular action. For example, typical modes of air landing operations include helicopter landing insertion, airborne paradrop, and, sometimes, transport aircraft landing insertion. Any or all of these modes might be used by a commander to achieve the operational objectives of airborne operations. Whichever mode or combination of modes is chosen, the commander determines the ratio composition of each type of unit and platform in the airborne operations subsystem. Experimentation with such concepts as target-centric warfare tested many different types of these tailored force groupings under a range of diverse scenarios and conditions.

Another PLA goal is for individual subsystems to be tailorable according to an opposing force's operational system. Specifically, the PLA's understanding of enemy defensive systems determines its own system's structure, composition, and size. Each PLA operational system requires the ability to resist and protect itself from enemy attacks and to be robust enough to complete the action while being damaged and degraded on the battlefield. As a result, operational systems are scaled and scoped according to the adversary's systemic architecture and capabilities. For example, if a low-end adversary did not pose a challenge in the EM domain, the PLA's various operational systems might not need substantial defensive EW capabilities.

Last, the PLA aspires to have operational systems that are dynamically tasked and self-healing in response to battlefield conditions. Certain aspects of an operational system may be planned ahead of time using a general template, but each is customized and subject to a commander's understanding of higher-level objectives, the operational environment, and an assessment of the current situation. If battlefield conditions are evolving, these systems may be augmented with additional platforms, units, and subsystems as the battle progresses. This is especially true should a PLA commander decide that operational objectives are not being achieved in a timely manner or are at risk of not being achieved at all. In theory, platforms, units, or subsystems tasked in one phase of operations to support a designated operational system might later be retasked to support a different operational system as operations progress, objectives evolve, or commanders decide additional resources are needed to ensure the ability to achieve the operation's original objectives.

Similarly, as platforms, units, and subsystems within an operational system are degraded or suffer battlefield losses, other platforms, units, and

subsystems can be newly tasked to backfill and ensure the operational system's continued ability to achieve campaign objectives. For example, if an operational system's ground attack aircraft were heavily attritted by an adversary, additional ground attack aviation units—if available, either from reserve units or as part of another operational system—might be tasked to make up for the shortfall in capability. Alternatively, other platforms, units, and systems, also with ground attack capabilities—surface-to-surface missiles, bomber aircraft, long-range artillery, etc.—might be tasked by the commander instead, based on availability and circumstances.

What Does the PLA Value in Systems Warfare?

Given the parameters of systems warfare as defined, what does China value according to the literature? Fundamentally, China's commitment to systems warfare is an expression of its complete acceptance of the criticality of information in all of its dimensions in warfare, and, in that respect, Chinese priorities are in step with what modern Western militaries have concluded. Regarding how to target enemy operational systems, the primacy of information is described succinctly thus: "When it comes to 'precise strikes to destroy the system,' the first thing is to destroy the enemy's information systems. This is both a cheap and effective way of destroying the enemy's operational system. Destroying the enemy's information systems should therefore be the very first thing considered. When planning operations, we must adhere to destroying the enemy's information systems as the first requirement. When organizing operations, we must adhere to destroying the enemy's information systems as the most important of important things running through the entire operation. When assessing an operation, we must insist on the effects from destroying the enemy's information systems as a major assessment measure."⁷¹ While questionable in its judgment that countering information systems is cheap or easy, the focus of this guidance is clear.

At a very high operational level, the PLA's systems approach emphasizes a commitment to many of the same attributes that the United States values,

⁷¹ Dong Lianshan, 2015, p. 15.

which relate to both offensive and defensive operations: speed, precision, and efficiency in decisionmaking and execution. This, in turn, puts a high premium on situational awareness overall and reconnaissance and intelligence systems, in particular; assured, protected command and communications systems and associated bandwidth, as well as a flattened C2 structure; and precise mid- and long-range fires to strike precisely at range to disable the enemy’s operational system.⁷² The same themes that convey what the PLA values in its own operations are restated throughout the literature and are neatly summarized here: “In system warfare, ‘precise sensing is the premise, correct decision-making is the core, efficient attack is the key, real-time evaluation is the requirement,’ these four links are highly correlated and mutually influential, and together constitute the closed loop of system warfare.”⁷³

The literature is filled with general recommendations about all the capabilities that the PLA will need to challenge and counter but few references that either explicitly or implicitly reveal a prioritization of what the PLA values for specific military tasks. For instance, one author posits the concept of “Striking the Key” as follows: “In general, the most sensitive key part of the enemy’s combat system is the ‘Four Branch Systems’ that function as links, control, coordination, and pillars, namely reconnaissance intelligence systems, command and control systems, combat systems, and safety systems.” The text asserts their strong technical capabilities and that they “have poor protection and are vulnerable to attack” without specifying how such an attack might be accomplished.⁷⁴ So the problem appears to have been defined and parameterized but not solved.

⁷² Wang Yongnan, 2015, p. 155. Besides precise fires, the PLA also recognizes the value of SOF to deliver effects that degrade or disable the enemy operational system at depth but understands that such operations are “uniquely difficult” and reserved for use only at the theater commander’s discretion.

⁷³ Wang Yongnan, 2015, p. 160.

⁷⁴ Wang Yongnan, 2015, p. 48.

Conclusions

The PLA's guidance according to the *Military Strategic Guidelines for the New Era* is broad and comprehensive and touches almost all aspects of its organization, force structure, military institutions, and processes. The key question that emerges is one of priorities. Which of these priorities matter most to China's political and military leaders, and how are these priorities weighted in China's assessment of military balance? A similar question that emerges is whose assessment matters most for our understanding of the military balance. There exists a wide body of military science research and other military publications that captures major PLA developments; however, the views that matter most in understanding how China sees the military balance are almost certainly not from the commanders, researchers, and scientists producing this body of analysis. Regardless, this analysis provides a broad array of insights that likely inform those senior leaders whose opinions matter most in the final assessment.

The PLA military science literature on systems warfare and its related concepts describes a force in transition to an end state that is not yet well understood; in some respects, it reads as though the authors are urging acceptance of the basic principles that the PLA's embrace of systems warfare requires of its officer corps. For example, one PLA researcher discussing what is termed *intelligent decisionmaking* in C2 contended,

The command and control system utilizes a computer network platform to comprehensively use databases, expert systems, and combat simulations to make command decisions. Based on the comprehensive judgment according to battlefield conditions, the commander can propose multiple decision-making schemes, and then quickly simulate and evaluate various programs through computer-aided decision-making systems to arrive at the best solution. At the same time, advanced distributed interactive networks, graphic image processing and display, virtual reality, the use of technologies such as artificial intelligence, in order to implement effective command and control, provides reliable support and protection.⁷⁵

⁷⁵ Wang Yongnan, 2015, p. 34.

Yet these capabilities are recognized as being well beyond where the PLA finds itself today. Singling out the PLA Army, the legacy service perceived as least prepared for modern warfare, the author concedes, “Especially for our army, the combat targets faced by the tactical level are relatively limited. It is not easy to detect and determine the key nodes that affect the overall enemy combat system. It is even more difficult to successfully use the existing combat forces to carry out strikes.”⁷⁶

Informatized warfare, embodied in the two closely related concepts of system-of-systems and joint operations, places significant demands on the PLA that go beyond the critical need for advanced technology and weapon systems. System-of-systems and joint operations require advanced training, capable and experienced commanders, and innovative concepts tailored to the types of informatized wars that the PLA may have to confront in the future. Ultimately, Xi’s emphasis on “fighting and winning wars” and the “preparation for military struggle” has served to push the PLA to become a world-class military. His priorities and views on the PLA’s progress and challenges surely carry the most weight in assessing China’s institutional view of the military balance.

⁷⁶ Qian Weichao and Yi Xiaoming, 2015, p. 7.

What Xi Thinks About Most

China's military modernization and reform efforts during Xi's tenure have been extensive, covering almost all aspects of the PLA's war preparation and organization. The publication of *China's Military Strategy* and the PLA reforms announced later the same year are now nearly six years old. Implementing the organizational reforms in early 2016 was ambitious in itself, with the dissolution of the General Staff Department (GSD), the migration of most of its responsibilities to the CMC, as well as the creation of the theater commands, the SSF, and the Joint Logistics Support Force. With the addition of the comprehensive military strategic guidelines, the PLA was faced with challenging new guidance that pushed it as it had not been pushed since the 1980s.

Following both of these events, Xi visited multiple PLA units and organizations at all levels and echelons, including the CMC Joint Operations Center, the theater commands, and multiple service organizations.¹ During

¹ Cao Zhi and Li Qinghua, "Xi Jinping Inspects a Division of the Central Theater Army, Stresses Grasping War-Realistic Training in a Big Way and Focusing Effort on Building Crack Combat Forces," Xinhua, January 4, 2018; Li Xuanliang and Liu Yonghua, "Xi Jinping Inspects the 13th Group Army, Emphasizes Pushing Forward at a Deep Level Political Army Building, Strengthening the Army Through Reform and Governing the Army According to Law, Fortifying Confidence, Vigorously Grasping Implementation and Opening Up a New Situation of Strengthening and Revitalizing the Army," Xinhua, January 7, 2016; Li Yiwei, and Yao Chunming, "Turn the Great Trust of the Supreme Leader into Their Lofty Aspirations, Speed Up the Pace of Fulfilling the Missions," *Air Force News*, February 22, 2018; Li Xuanliang and Li Yun, "Xi Jinping Inspects CMC Joint Operations Command Center on the Morning of 20 April," Xinhua, April 20, 2016; Li Xuanliang and Wu Dengfeng, "When Inspecting Navy Organs, Xi Jinping Stresses: Make Efforts to Build a Powerful and Modern Navy to Provide a Strong Support for the Realization of the Chinese Dream and the Dream of

these visits, he reiterated the key directives outlined in the new guidelines and the importance of each service and branch of the PLA doing its part to prepare for military struggle. Broadly, his guidance during these visits emphasized the need for and importance of (1) the CCP's authority over the PLA and the importance of loyalty to the Party, (2) constant readiness, (3) leadership and command, (4) joint operational capability, (5) innovative tactics and CONOPs, and (6) improved training. While other visits contained tailored messages for specific audiences, such as the Joint Logistics Support Force and the SSF, these six themes permeated all of Xi's main discussions and reinforced the importance he personally attached to implementing his military strategic guidelines.²

Each of the areas outlined in the *Military Strategic Guidelines* is important for the PLA's development as a modern, state-of-the-art military. Indeed, PLA editorials have highlighted and reinforced the key themes and their critical nature; however, for this report's purpose to identify China's views of the U.S.-China military balance, two issues are of primary importance. The first is Xi's central role in leading the PLA—a point that he has sought to reinforce with directives such as “Two Safeguards,” which are to “resolutely safeguard the core status of General Secretary Xi Jinping in the party Central Committee and in the entire party and resolutely safeguard the authority and centralized, unified leadership of the party Central Committee.”³ The second issue is that, because of Xi's preeminent role

a Strong Army,” Xinhua, May 24, 2017; Li Xuanliang and Li Yun, “While Inspecting Marine Corps, Xi Jinping Emphasizes Accelerating Promotion of Transformation Construction, Accelerating Improvement of Combat Capabilities, Striving to Forge Elite Squad, Which Is Integrated, Versatile in Operations, Quick in Reaction, Capable of Fighting in Whole Field,” Xinhua, October 13, 2020.

² Li Xuanliang and Xu Jinzhang, “Inaugural Meeting of Joint Logistics Support Force of Central Military Commission Held in Beijing; Xi Jinping Confers Army Flags to Wuhan Joint Logistics Support Base and Various Joint Logistics Support Centers and Delivers Speech,” Xinhua, September 13, 2016; Li Xuanliang and Li Guoli, “Xi Jinping Inspects Strategic Support Force and Its Organs, Emphasizes Undertaking Important Historical Responsibilities, Aiming at World's First Rate, Courageously Making Innovations and Leaping Forward and Striving to Build Powerful Modern Strategic Support Force,” Xinhua, August 29, 2016.

³ “CMC General Office Issues Notice Demanding PLA, Armed Police Force Relay, Study Spirit of Fourth Session of 13th NPC,” Xinhua, March 12, 2021.

in leading the military, his views on the balance—from the standpoint of both strengths and weaknesses—are key to understanding how China sees the military balance and how that assessment might influence Beijing’s risk calculations.

“Will They or Not?”

In any major reform and reordering, particularly one as extensive as the PLA’s beginning in 2015, not all areas can maintain the same priority, and some areas will be of more immediate concern than others. Xi’s comments during his speeches to Party gatherings and visits to military organizations demonstrate those areas of PLA reform that are most concerning and most pressing. During a speech delivered in 2017, Xi raised three points referred to as three “will they or not” questions and characterized them as topics that consume his thought:

What I think about most is that when the party and the people need it, will our armed forces always adhere to the party’s absolute leadership, will our armed forces be able to mobilize and fight winning battles, and will leaders at all levels in our armed forces be able to lead their people into battle and command in battle.⁴

The four areas highlighted in this speech—political reliability, mobilization, warfighting, and leadership and command—are prominent themes Xi has addressed in multiple other settings. Similarly, they are all areas that have received significant leadership attention during Xi’s time as Chairman and even before. Multiple regulations, research programs, experimentation efforts, and implementation programs conducted over the past two decades show how important these areas are, not only to Xi but also to his predeces-

⁴ Xu Tongxuan, “Pursuing an Answer to the Question of How to Win Wars: A News Perspective on the Air Force’s ‘Red Sword-2017’ Series of Opposing-Forces Exercises,” *Air Force News*, December 15, 2017. Although the article refers to these questions as the three “will they or not” questions, this report will address them as four categories.

sors and senior military leaders.⁵ Accordingly, this study will use these four areas as the baseline for assessing how PRC leaders view the military balance with regard to those areas of most concern to Xi and that he reportedly thinks about most.

Political Reliability

The first issue that Xi raised in his speech detailing the four “will they or not” statements is the issue of whether China’s armed forces will “always adhere to the party’s absolute leadership.” The question of CCP leadership over the PLA has been the top priority under Xi’s tenure as Chairman of the CMC. In his remarks to the 19th Party Congress in 2017, he made clear that “to realize the Party’s goal of building a powerful military in the new era,” the PRC must “fully implement the fundamental principles and systems of Party leadership over the military.”⁶ CCP leadership over the PLA would thus play the leading role in ensuring that PLA modernization proceeded in line with Party strategies and objectives. The key efforts that Xi emphasized as components of ensuring Party leadership were to “enhance the political loyalty of the armed forces, strengthen them through reform and technology, and run them in accordance with the law.”⁷ Likewise, Party leadership would place greater focus on combat preparations, innovation, systems building, efficiency, and CMF.⁸

The importance of political work in the PLA is by no means a new development. It has been an essential component of PRC military thinking for decades, and many of today’s core concerns are reflections from earlier

⁵ Qiao Nannan, “With the Approval of the Chairman of the Central Military Commission Xi Jinping, the Central Military Commission Issued the ‘Outline of Joint Operations of the Chinese People’s Liberation Army (Trial),’” Xinhua, November 13, 2020; “Full Text of the National Mobilization Law,” China News Service, February 26, 2010; “Revised Regulation on Military Political Work Released,” Xinhua, February 18, 2021.

⁶ “Full Text of Xi Jinping’s Report at 19th CPC National Congress,” Xinhua, November 3, 2017.

⁷ “Full Text of Xi Jinping’s Report at 19th CPC National Congress,” 2017.

⁸ “Full Text of Xi Jinping’s Report at 19th CPC National Congress,” 2017.

experiences and lessons learned. For example, political work plays a central role in both offensive and defensive components of the “Three Warfares”—media, legal, and psychological warfare—and is viewed as a key element in developing PLA leaders and commanders.⁹ Similarly, political work and political work plans have long been primary command responsibilities and critical elements in PLA planning at the strategic and campaign levels of war.¹⁰ Xi’s comments during this speech and in other speeches he has delivered to military organizations stress much broader issues related to political work in the PLA and his concerns over the diminished role to which political work had been relegated under his predecessor, Hu Jintao. Xi’s focus has been to reemphasize the importance of political guidance for the PLA, reinvigorate PLA political work programs at all levels, and tackle the difficult problems that his predecessor was unable to address.

From the beginning of his tenure, Xi sought to build on the historical link between the CCP and the PLA by highlighting the Party’s leadership over the PLA since its inception. On October 31, 2014, Xi chaired the All-Army Political Work Conference in the southeastern city of Gutian, the site of the 1929 Gutian Congress. The Gutian Congress delineated the relationship between the CCP and the PLA by stating that the PLA’s primary purpose was to serve the Party’s political objectives. Xi intended the 2014 Gutian conference to address four fundamental areas: (1) “ideals and beliefs throughout the army,” (2) “party spirit throughout the army,” (3) “the standards of combat worthiness throughout the army,” and (4) “the prestige of political work throughout the army.”¹¹ Since the conference, Xi has referenced the “Gutian spirit” on many occasions, directing the PLA to address

⁹ Dong Lianshan, 2015, p. 287; Li Bing, 2014, pp. 1–2.

¹⁰ Yuan Wenxian and Sun Ruling, *Introduction to High-Ranking Organ Work*, Beijing: National Defense University Press, August 2005, pp. 34–37; Wang Houqing and Zhang Xingye, 2000, pp. 261–265; Cha Jinlu, *Outline of Strategic Command*, Beijing: Military Science Press, 2010, pp. 222–239.

¹¹ Cao Zhi and Li Xuanliang, “All-Army Political Work Conference Held in Gutian; Xi Jinping Attends Meeting, Delivers Important Speech, Emphasizes Need to Develop Role of Political Work as Lifeline for Strengthening the Army and Invigorating the Military, and to Struggle for Realization of the Party’s Goal of Strengthening the Army Under the New Situation,” *Xinhua*, November 1, 2014.

the problems of depoliticization, corruption, compliance, competence, and combat motivation.¹²

Depoliticization

Although the PLA had never completely lost its political orientation, Xi's message and the priority he assigned to the importance of political work demonstrated that he felt that the PLA's political drift was the root cause of several other problems. *Depoliticization* should not be interpreted as the fulfillment of earlier debates about whether the PLA would be "red" or professional.¹³ It was much more in line with a deemphasis by PRC leaders that was influencing many segments outside of the military as well. The problem of depoliticization in the PLA was particularly troublesome, however, due to its role in ensuring the CCP's grip on political power. Xi highlighted ten major problems in need of correction that centered on core problems in "leading cadres' ideology, politics, and work style."¹⁴ Xi's direction to the PLA was to return to long-standing PLA political work practices by upholding CCP ideology, providing officers and soldiers with effective and substantive political education, and ensuring that promotions were based on "impartiality and uprightness."¹⁵ Xi has reemphasized these issues repeatedly since 2014, most recently with the approval and implementation of a new set of military political work regulations.¹⁶

Three slogans capture the essence of Xi's effort to revitalize the role of political work in the PLA: (1) "the Four Awarenesses," (2) "the Four Self-Confidences," and (3) "the Two Safeguards." The first two of these slogans deal with improving the PLA's political education. The "Four Awarenesses"

¹² Li Xuanliang and Wu Dengfeng, 2017; Li Xuanliang and Wang Hongshan, "When Inspecting the Ground Force Headquarters of the PLA Southern Theater Command, Xi Jinping Stresses the Need to Focus Solidly on the Various Work for the Year and Make Vigorous Efforts to Open Up a New Prospect in the Work of the Armed Forces," Xinhua, April 23, 2017; Li Xuanliang and Wang Yitao, 2016.

¹³ Liu Zhihui, Zhu Tingchun, and Liu Xingxing, 2016, pp. 203–207.

¹⁴ Cao Zhi and Li Xuanliang, 2014.

¹⁵ Cao Zhi and Li Xuanliang, 2014.

¹⁶ "Revised Regulation on Military Political Work Released," 2021.

are the PLA's awareness of politics, alignment, "the core" (i.e., Xi Jinping's leadership), and the overall situation. The "Four Self-Confidences" are PLA trust in the CCP's path, theory, system, and culture.¹⁷ The third slogan in this group—the "Two Safeguards"—deals less with the end goals for political education than the question of authority in the CCP and PLA and the relationship between the two. More specifically, the "Two Safeguards" calls on the PLA to "resolutely safeguard the core status of General Secretary Xi Jinping in the party Central Committee and in the entire party and resolutely safeguard the authority and centralized, unified leadership of the party Central Committee."¹⁸ These themes provide a focusing mechanism for PLA political work and have been reiterated in several CCP statements and reports outlining the highest PLA modernization and national defense priorities.¹⁹

In addition to continued discussion of the importance of political work in the PLA's preparation for military struggle, there have also been efforts to enhance the manner in which political work is accomplished in PLA education and training. In his 2016 visit to the PLA's NDU, Xi emphasized that institution's role in political work, particularly in terms of preparing future PLA commanders for leadership roles.²⁰ Subsequent NDU publications followed Xi's guidance directing "reform and strengthening of schools and

¹⁷ "CMC General Office Issues Notice Demanding PLA, Armed Police Force Relay, Study Spirit of Fourth Session of 13th NPC," 2021.

¹⁸ "CMC General Office Issues Notice Demanding PLA, Armed Police Force Relay, Study Spirit of Fourth Session of 13th NPC," 2021.

¹⁹ Li Xuanliang and Mei Shixiong, "When Deliberating Government Work Report, Delegations of PLA and PAP Forces Say They Will Accelerate Promoting Modernization of National Defense, Armed Forces at New Starting Point to Celebrate 100th Anniversary of Party's Founding with Actual Actions, Outstanding Achievements," *Xinhua*, March 6, 2021; "CPC Central Committee Political Bureau Convenes Meeting, Deliberates 'Regulations on Military Political Work,' 'CPC Regulations on United Front Work,' 'Regulations on Protection of Rights of CPC Party Members,' Xi Jinping, General Secretary of CPC Central Committee, Presides Over Meeting," 2020.

²⁰ Li Xuanliang and Wang Yitao, "When Inspecting the PLA National Defense University, Xi Jinping Stresses the Need To Focus on Achieving the Goal of Strengthening the Military Forces, Push Forward Reform and Innovation at Military Academies, and Provide Talented Personnel and Intellectual Support for the Achievement of the Chinese Dream and the Dream of Strengthening the Military Forces," 2016.

the training of senior commanding talents” and “editing and publishing a large number of in-depth” studies on the key issues in political work and their overall importance to army building.²¹ Likewise, NDU also produced a large study titled *Military Political Work Under the New Situation* shortly after the publication in 2015 of *China’s Military Strategy* and in the early phases of PLA reform in 2016.²²

In a similar manner to PME, PLA training in both service and joint environments has also incorporated political work subject matter on a routine basis and in a variety of formats.²³ The training events described in official PRC press accounts have involved skills competitions, exercises, and unit training with a selection of common themes. PLAN training has incorporated “psychological offense and defense,” battlefield mobilization, “handling special situations,” and “testing the participating personnel’s abilities to carry out wartime political work.”²⁴ PLARF training has also covered a variety of subjects and wartime functions, such as “psychological counseling, battlefield propaganda, battle encouragement, and opinion guidance.”²⁵

²¹ Li Bing, 2014, pp. 1–2.

²² Liu Zhihui, Zhu Tingchun, and Liu Xingxing, 2016.

²³ Ruan Ming and Zhang Dudu, “A Certain Regiment Concentrates on Missions and Tasks to Forge a Team of Talent with Higher Education Record, Higher Education Record Transforms into Innovation Power to Push the Birth of Combat Power,” *Rocket Force News*, May 23, 2020; Li Wei and Zheng Canhong, “A Southern Theater Command Navy Flotilla Closely Adheres to Combat-Realistic Conditions to Organize the Position Assessment of Political Work Cadres; Holding Relevant Certificates and Taking Up Positions, Skills Training Adheres Closely to Combat-Realistic Requirements,” *PLA Daily*, June 11, 2019; Zhu Xiaobing and Li Jianwen, “An Eastern Theater Command Air Force Base Organizes Combat-Realistic Wartime Political Work Exercises; Red-on-Blue Confrontation, Closely Adhering to Combat-Realistic Conditions Throughout the Test,” *PLA Daily*, April 29, 2019; Mo Botao, Wang Haozhong, and Yue Xiaolin, “‘Lifeline’ Follows ‘Lines of Attack’ to Desert—Stories About Certain Brigade’s Effort to Carry Out Wartime Political Work at Mission Frontline,” *PLA Daily*, October 1, 2020; Tian Liang and Zhang Yanhe, “Over 100 Grassroots Political Cadres Hone Professional Skills on Competition Grounds—A Base Takes Initiative in Handling Political Work by Aiming at Combat Posts,” *PLA Daily*, August 4, 2018.

²⁴ Li Wei and Zheng Canhong, 2019.

²⁵ Wang Weidong and Yuan Shuai, “Political Cadres in a Missile Brigade of the Rocket Force Get Involved in Operations Drills as Part of the Combat Personnel, Extending the ‘Lifeline’ to the Bottom of Each Missile Launcher,” *PLA Daily*, August 18, 2019.

Other training has employed “Blue force” units in an attempt to improve the realism and urgency of exercise political tasks.²⁶ As multiple training events demonstrate, descriptions of PLA training have reported significant attempts to incorporate military political work on several fronts in accordance with the latest PLA Outline for Military Training and Evaluation (OMTE).²⁷ According to these accounts, such topics as battlefield psychological offense and defense, wartime propaganda, and countering adversary “public opinion defense” are core topics in the PLA’s new training guidelines. In several cases, the training events being described notably featured assessment teams assigned to evaluate unit performance.

Peacetime and wartime propaganda are also key elements of the PLA’s revitalized military political work. At various levels of training, propaganda has become a core feature of PLA exercises. During exercise “Red Sword–2018,” a wartime propaganda team was employed to encourage an air-to-surface missile brigade that was on the move for 11 days.²⁸ Other exercises have also highlighted defensive political work to counter propaganda. According to one report, during a grassroots training event, political cadres had to educate participants in how to handle and collect propaganda materials and respond to “rumors spread by the enemy.”²⁹ In addition to the renewed emphasis Xi Jinping has placed on propaganda overall, the military has realized that propaganda is an effective tool for promoting key modernization programs, providing examples of the types of behavior and characteristics the PLA seeks to promote within its ranks, and countering an enemy’s “Three Warfares.”

Finally, as has always been the case, PLA military research, doctrinal publications, and PME materials continue to devote significant discussion to the importance of political work and its relevance to the full range of types of PLA operations and operational concepts. PLA research materials on such subjects as systems warfare and target-centric warfare have dis-

²⁶ Zhang Yuqing and Zhang Mimi, “The Characteristics and Rules of Wartime Political Work Are Explored in Air Force Exercise ‘Red Sword-2018,’” *Xinhua*, May 31, 2018.

²⁷ Li Wei and Zheng Canhong, 2019; Zhang Yuqing and Zhang Mimi, 2018.

²⁸ Zhang Yuqing and Zhang Mimi, 2018.

²⁹ Tian Liang and Zhang Yanhe, 2018.

cussed political work's vital role in modern operations. From one perspective, system warfare places significant emphasis on information technology and systems; however, the effective functioning of any system requires organizational work and, from the PLA's perspective, ideological work to ensure that the system functions as intended.³⁰ In particular, PLA theorists teach that modern systems warfare requires a political work system capable of quick, agile response, and that proactive actions to counter the "Three Warfares" have become a core feature of the modern battlefield.³¹

Corruption

PLA political work increasingly is focused on combating corruption because of the threat it poses to both the CCP's and the PLA's authority and relationship with the PRC's broader population, as well as the numerous problems both the Party and the military have experienced with corruption in the forms of lapses in Party discipline, bribery, and illicit economic gain.³² China's "reform and opening up" has provided many opportunities for corruption to flourish across Chinese society.³³ As the PRC's economy has become more advanced and China more wealthy, the opportunities for corruption within the PLA have also increased. Xi's anticorruption campaign has demonstrated the threat corruption poses to the CCP's legitimacy and authority.

Xi's anticorruption campaign began by targeting senior members of the CCP who had formerly been considered untouchable. The effort soon extended to senior PLA officers including Guo Boxiong, Xu Caihou, Fang Fenghui, and Zhang Yang—all of whom continue to be held up as examples of corruption's "toxic effects" on the PLA.³⁴ Guo Boxiong and Xu Caihou, both former Vice Chairmen of the CMC, are routinely referenced in speeches

³⁰ Wang Yongnan, 2015, p. 234.

³¹ Wang Yongnan, 2015, p. 236; Dong Lianshan, 2015, p. 288.

³² Liu Zhihui, Zhu Tingchun, and Liu Xingxing, 2016, pp. 226–232.

³³ Liu Zhihui, Zhu Tingchun, and Liu Xingxing, 2016, pp. 227–228.

³⁴ Mei Shixiong, Mei Changwei, and Zhang Leifeng, "Cast the Soul of the Army Under the Banner of the Party—Summary of the Whole Army's Insistence on Using Xi Jinping's Thoughts on Socialism with Chinese Characteristics in the New Era and Xi Jinping's Thoughts on Strengthening the Army," *Xinhua*, December 2, 2020.

delivered by Xi and other senior military leaders addressing the effect of corruption in the PLA. In 2016, the PLA held a special conference for Party secretaries of major units from across the military “to study and arrange the thorough eradication of the pernicious influence of Guo Boxiong and Xu Caihou” in an attempt to “promote in-depth rectification of work style, combat corruption, and purify political ecological work.”³⁵ The conference program stressed the danger presented by corruption in the ranks, both from the standpoint of military modernization and also in terms of the PLA’s relationship with the PRC population as a whole. The latter relationship is essential to the CCP’s broad claim to authority and legitimacy but also matters at a more foundational level with respect to mobilization and national defense education. Ironically, two of the senior PLA participants and members of the CMC—Zhang Yang and Fang Fenghui—were later charged with corruption. Zhang became another example of the disgrace that accompanies corruption after he died by suicide and was posthumously expelled from the Party because of his ties with both Guo and Xu.³⁶

PLA publications and official press statements have highlighted the seriousness with which the CCP approaches corruption, and, by using examples of senior party and PLA leaders, the authors strive to demonstrate that corruption will not be tolerated at any level. In his role as Chairman of the CMC and months before his elevation to General Secretary of the CCP at the 18th Party Congress, Xi signed a regulation that was issued by the GSD that placed limits and priorities on spending in the PLA. It placed priority on expenditures dedicated to “preparations for battle,” including information technology, high-tech weapons, “new-type” capabilities, and training.³⁷ The regulation was also intended to rein in expenditures in those areas that traditionally had been prone to corrupt practices and waste, such as construction, procurement, and conferences and meetings. More specifically,

³⁵ An Puzhong, “Special Conference of Party Secretaries at Various Departments of Various Major Units of the All Army and of Organs of the Central Military Commission Was Convened in Beijing; Fan Changlong and Xu Qiliang Attend and Speak at Meeting,” *PLA Daily*, October 11, 2016.

³⁶ “Always on the Road of Tenaciously and Persistently Advancing In-Depth the Anti-corruption Struggle,” *PLA Daily*, November 29, 2017.

³⁷ “Chinese Army to Tighten Expenditure,” *Xinhua*, February 24, 2013.

the regulation directed the army to “exercise tight control over spending that is prone to misuse and corruption, including infrastructure investment, centralized purchasing, conference receptions, celebrations, housing projects, public-funded overseas trips, and vehicle purchases.”³⁸

A subsequent effort by the CMC to fight corruption was the 2018 publication of the “CMC Inspection Work Regulation,” which was designed to improve “inner-party supervision” and “comprehensively administer the party with strict discipline.”³⁹ The motivation behind this regulation was to “solemnly enforce the military’s inner-party political life, purify the military’s inner-party political ecosystem,” and “promote the party’s advancement and purification building within the military.”⁴⁰ Official reports following the regulation’s publication highlighted its relationship to the “Four Awarenesses” and its importance for maintaining the fight against corruption in the PLA.

Xi’s overarching concerns with corruption in the PLA went well beyond the impropriety exhibited by its senior officers. His aims centered the party’s legitimacy and the PLA’s ability to effectively prepare for someday having to fight against the United States if the situation arose. The examples of corruption that Xi discussed and the regulations and programs that he put into place to combat corruption provide a perspective into the PLA regarding the practical impact that corruption had on a landscape of military infrastructure and modernization efforts, military readiness, and command and leadership. When coupled with questions about the PLA’s political reliability and loyalty to the Party, the corrosive effects of corruption compounded and complicated PLA efforts to prepare for military struggle as outlined in *China’s Military Strategy*.

³⁸ “Chinese Army to Tighten Expenditure,” Xinhua, February 24, 2013.

³⁹ “Important Measure to Strengthen Inner-Party Supervision in the Military,” *PLA Daily*, January 17, 2018.

⁴⁰ “Important Measure to Strengthen Inner-Party Supervision in the Military,” *PLA Daily*, January 17, 2018.

Compliance

Beyond preventing corruption and the PLA's perceived political drift prior to his tenure, another of Xi's key concerns regarding political reliability is the overall PLA culture that has developed and the need to improve "work style" and enforce compliance with both party and PLA regulations and guidelines. The CCP's efforts to improve work style in the PLA have focused on such traits as courage, humility, frugality, diligence, and truthfulness while attempting to root out arrogance, frivolity, wastefulness, and impetuosity.⁴¹ One of Xi's core concerns has been that the deterioration of "work style" within the PLA was limiting its ability to fully prepare for military struggle by limiting the effectiveness of training and promoting a peacetime mentality that ran counter to the development of much-needed experience. Xi's attempts to control spending on projects of limited value to the PLA's modernization and to enforce a discipline and inspection regime should be viewed as a recognition of the very real problem poor "work style" represents in the PLA.

A series of *PLA Daily* editorials published in 2013 highlighted Xi's early concerns about the PLA's readiness by warning that "even during peacetime it is dangerous to forget about war."⁴² The editorial warned that in order for the PLA to be ready when called upon, it needed to improve recruitment, training, and leadership. Since then, the PLA leaders and commanders have emphasized improving readiness and ensuring that the PLA is ready to respond to threats in multiple directions and all domains.⁴³ One of the early efforts to combat what the PLA routinely characterizes as *peacetime malpractices* or bad habits began in 2014 with the CMC's "combat power standard discussion," which attempted to "clean up the peaceful accumulation of malpractices and promote the fundamental standard of combat

⁴¹ Liu Zhihui, Zhu Tingchun, and Liu Xingxing, 2016, pp. 227–228.

⁴² "Achieving the Ability to Be Called Upon at Any Time, the Ability to Fight When One Comes, and the Ability to Win When One Fights—A Four-Part Discussion on Studying and Implementing the Spirit of the Speeches of Chairman Xi," *PLA Daily*, December 20, 2013.

⁴³ State Council Information Office, 2015.

effectiveness.”⁴⁴ These problems accumulated during peacetime appear to have been prevalent in all services and within staffs of the theater commands. During a 2018 visit to the Southern Theater Command, Xi made the point that there was still a need to “vigorously resolve problems accumulated during peacetime” and to train staffs in complex situations in order to have confidence in the PLA’s theater decisionmaking processes.⁴⁵ Similar problems have been discussed in accounts of training across the services.

The peacetime malpractices discussed routinely in PRC official press reflect the work style that Xi claims had deteriorated. According to one report, the CMC had declared war on “peace soldiers” and “peace officials” and was now holding them accountable for permitting the shortcuts in training in recent years.⁴⁶ Typically referred to as part of a broader problem of “bureaucratism” and “formalism,” the peacetime traits that developed over time appear to remain a concern for Xi and other party and PLA leaders.

Competence

The problem of work style has raised several other concerns about general competence (as opposed to technical task-specific competence, which will be addressed in subsequent sections). One of the chief criticisms that has emerged in official PLA press is the problem of “lax and untruthful styles of training and preparation for war.”⁴⁷ Updated training regulations in 2018 and the increased use of discipline and inspection teams to assure compliance with training standards are both ways in which the PLA has sought to remedy these problems, but the problems apparently persist. The CMC held a meeting in late 2020 with representatives at all levels of the PLA to exam-

⁴⁴ Mei Shixiong, Mei Changwei, and Zhang Leifeng, 2020.

⁴⁵ “Speed Up Boosting Solid Command Capabilities—Study and Follow Chairman Xi Jinping’s Important Speech Delivered During His Inspection of the Southern Theater Command,” *PLA Daily*, October 27, 2018.

⁴⁶ Li Xueyong, Li Xuanliang, Mei Shixiong, Fei Shiting, and Qian Zongyang, “Leading the Strength of the Army—Chairman Xi Jinping Leads the Advancement of Military Training in the New Era,” *Xinhua*, November 24, 2020.

⁴⁷ Li Xueyong et al., 2020.

ine approaches for fixing the PLA's problems in combat-oriented training.⁴⁸ During the meeting, Xi raised the issue of Party committees and their role in formulating training guidance and overseeing the manner in which training was being carried out.⁴⁹ His immediate goal was improving the quality and effectiveness in how the PLA leads training.

Party committees were not the only problem in PLA training. Commanders, in many cases, were evidently falling short, and Xi called for commanders at all levels to improve their knowledge of military affairs, current developments in warfighting, and methods of command.⁵⁰ Much of the PLA's training had fallen into the practice of "formalities for formalities' sake and bureaucracy" that prevented improvements and breakthroughs in realism and training style.⁵¹ Only at that point could commanders then master the skills necessary to lead and develop competent troops. Ultimately, Xi assessed that one of the most significant factors holding back PLA training was the lack of competence among Party committees and commanders in carrying out this strategically important and critical task for the PLA's ability to prepare for the informatized wars it would be required to fight in the future.

Motivation

The final element of reliability—motivation—is addressed by the PLA through the process of cultivating and improving "fighting spirit" or "combat spirit." Party committees shoulder most of this responsibility, particularly via their role in the training process.⁵² As an essential function of PLA political work, PLA military research publications have highlighted the importance of motivation in countering the "Three Warfares" and enabling

⁴⁸ Li Xueyong et al., 2020.

⁴⁹ Liu Zhiyong, "Hold High-Quality Discussions About Training, Tackle Training with High Standards," *PLA Daily*, February 18, 2021.

⁵⁰ Li Xuanliang and Liu Jimei, "Xi Jinping Stresses at CMC Military Training Conference: Strengthen Combat-Realistic Military Training in All-Round Way, Comprehensively Enhance Training Level, Winning Abilities," *Xinhua*, November 25, 2020.

⁵¹ Li Xuanliang and Liu Jimei, 2020.

⁵² Wang Yongnan, 2015, pp. 85–86.

PLA personnel to adapt psychologically and improve resilience in “complicated environments.”⁵³ Likewise, PLA publications on new operational concepts have highlighted the connection that “fighting spirit” has with problem-solving and adaptability on the modern battlefield—both key elements to system-of-systems-related concepts, such as target-centric warfare and information-firepower warfare.⁵⁴ In all cases, these works demonstrate the importance of political work across the board and argue that the role of political work in these “new-type” operations is an essential element of all PLA operational activities.

The work style that developed out of “peace accumulated malpractice” has led to calls from Xi and other military leaders to not only eradicate these corrosive practices but also develop the fighting spirit necessary for today’s battlefield. While there remain many references to the PLA’s past heroes and their actions during wartime, there have also been calls to explore how the contested modern information environment influences the PLA’s political work in this arena. Immediately following Operation Iraqi Freedom in 2003, several PLA publications performed extensive studies on the methods that the United States used to weaken Iraqi resolve. One anecdote recounted in these studies discussed emails that were sent to high-ranking Baath Party officials and military officers encouraging them to surrender.⁵⁵ Other efforts that the PLA viewed as effective and likely to be used against the PLA include leaflet drops and radio and television broadcasts as part of broader enemy propaganda and psychological warfare efforts.

PLA training directives in recent years have emphasized both elements of “fighting spirit”—enduring physical and environmental hardships and marshalling the psychological endurance and adaptability necessary for future information confrontation. The 2018 Mobilization Assembly that opened that year’s training cycle directed units to “carry forward the fighting spirit of fearing neither hardship nor death” while training in a “diligent

⁵³ Wang Yongnan, 2015, p. 87.

⁵⁴ Dong Lianshan, 2015, pp. 291–293; Qian Weichao and Yi Xiaoming, 2015, pp. 200–201.

⁵⁵ Wang Zhengde, *Information Confrontation Theory*, Beijing: Military Science Press, 2007, pp. 100–102.

and scientific manner.”⁵⁶ While this language seems to emphasize flourish at the expense of substance, this event reportedly was the first time that the CMC held a unified mobilization assembly to mark the beginning of annual training for the entire military.⁵⁷ Most notably, Xi issued orders that all units and training should be focused on preparing for war and training should consist of scenarios and content that reflect the complex environments in which PLA units may have to operate.

Xi’s concern about whether the “PLA would adhere to the party’s leadership” was directly related to concerns on many levels about reliability—particularly in terms of problems in “work style” and the impact of poor “work style” in developing peacetime habits. Xi’s speeches delivered to Party and military meetings and during his visits to PLA organizations emphasize his drive to improve reliability in all its facets—political reliability, loyalty to the Party, “work style,” and “fighting spirit.” From an institutional perspective, Xi’s efforts in the area of political reliability are a clear indication of broad systemic issues that likely decrease his confidence in the PLA, particularly in high-risk situations where the potential costs are highest to the Party, his personal leadership, and the PRC’s economic and social development.

Mobilization

As discussed in previous chapters, PRC lessons learned from observing U.S. operations in Kosovo and Iraq reinforced the view among CCP and PLA leadership that mobilization would be a critical function in any future conflict in which China might have to confront the United States.⁵⁸ Modeled on these operations that emphasized noncontact warfare using long-range pre-

⁵⁶ Cao Zhi, Li Qinghua, and Li Yun, “The Central Military Commission Holds a Mobilization Assembly for the Opening of Training in 2018, Xi Jinping Issues an Order to All Armed Forces,” Xinhua, January 3, 2018.

⁵⁷ Cao Zhi, Li Qinghua, and Li Yun, 2018.

⁵⁸ Huang Bin, *Research into the Kosovo War*, Beijing: Liberation Army Publishing House, 2000, pp. 134–137; Wang Yongming, Liu Xiaoli, and Xiao Yunhua, *Research into the Iraq War*, Beijing: Military Science Publishing House, 2003, pp. 184–189.

cision weapons to conduct massive air strikes against an enemy's war potential and national leadership, the PRC's approach to mobilization is broad and designed not only to meet the demands of mobilizing units for specific operations but also to protect China's population and infrastructure from American attacks.⁵⁹ In 2010, the PRC adopted its National Defense Mobilization Law after an extended period of deliberation, and new programs pressed the importance of CMF through the implementation of "dual-support" functions designed to support Party governance and the PLA.⁶⁰

Since the National Defense Mobilization Law was adopted in 2010, several new and highly complex problems have emerged, complicating the PRC's efforts to operationalize its NDMS. China's economic growth, new technology developments, expanding set of mobilization requirements, and complex political system are factors that have limited implementation of key elements of the PRC's mobilization system. The PLA, in responding to Xi's direction to prepare for military struggle, faces an environment in which the mobilization system will be required to respond with precision, as opposed to a mass system generally focused on generating large numbers of reserves and low-grade supplies.⁶¹ Strategic management, data collection and management, and compliance are all essential for developing a mobilization system capable of supporting informatized operations employing "new-type" forces.

Probably the most fundamental problem facing PRC mobilization programs is the lack of clear authorities and specification for responsibilities within the overall NDMS. One of the key elements of the PLA's reorganization in 2016 was the stand-up of a National Defense Mobilization Department within the CMC; however, among military and civil structures and at the various levels of governance, major problems remain with clearly outlining responsibilities, information sharing, reporting, and data manage-

⁵⁹ Liu Shiming and Xie Yuxiu, "National Civil Air Defense Actual-Combat-Oriented Exercise Held in Nanjing," *PLA Daily*, August 28, 2014.

⁶⁰ "China's Top Legislature Closes Session, Adopts National Defense Mobilization Law," *Xinhua*, February 27, 2010; Lin Lin and Liu Xinglong, "Outsourced Support System for 'Double-Support' Work Established in Shandong," *PLA Daily*, March 5, 2010.

⁶¹ Yu Yunxian and Yuan Zongyi, "What Kind of Mobilization Concept Should Informatized Warfare Have?" *PLA Daily*, April 2, 2020.

ment standards. These management challenges have been characterized as the “Four Relationships”: (1) between the PLA and local governments, (2) between mobilization organizations at all levels, (3) between command organizations at all levels, and (4) between the special command post for national defense mobilization and the local party committees and government departments involved in the process.⁶² Currently, the activities of each of the participating offices are not integrated, and the responsibilities between the different organizations are not clearly defined.⁶³

Challenges in management and data collection are both organizational and technological. Organizationally, the lack of clarity in responsibilities has created problems in getting necessary data out of the system. One of the most fundamental ways this is accomplished is through “mobilization potential statistical surveys,” which outline the full array of resources that the NDMS has access to in an emergency. As one official from the CMC National Defense Mobilization Department pointed out, there is a lack of regulatory oversight of and standardization in the process of gathering these data and in information systems at all levels.⁶⁴ According to this official, although coordination between military and civilian entities has improved in recent years and survey-related data collection has become more reliable, the primary benefits of this improvement have been seen in preparations for nonwar military actions.⁶⁵ Military conflict mobilization requirements were not addressed during this process and raised a series of problems. First, the regulatory institutions mentioned in the “National Defense Mobilization Potential Statistics Survey Regulations” are not suited to the core functions required under informatized conditions. Second, the mobilization potential index system is not standardized or regulated between military and civil organizations. Because of this, data gathered by different entities are not compatible with the requirements of the larger system and are of limited

⁶² Zhang Jialei, “A Preliminary Study on the Construction of National Defense Mobilization Command System,” *National Defense*, No. 7, 2019.

⁶³ Zhang Jialei, 2019.

⁶⁴ Jia Yong, “Work on Solidifying of National Defense Mobilization Building—Conversation with Military People’s Congress Representative Wu Yongliang on Mobilization Potential Statistical Survey,” *PLA Daily*, March 8, 2019.

⁶⁵ Jia Yong, 2019.

use. Finally, there are no mechanisms to share data between the mobilization commissions at all levels, their Statistics Departments, and their counterparts in the industrial system. This lack of data-sharing capability makes it difficult for the mobilization system as a whole to have accurate real-time information.⁶⁶

PRC efforts to implement its “smart cities” program enabling “smart mobilization” and the use of “dual-support functions” have been essential to the development of the NDMS in recent years.⁶⁷ Regardless of these developments, one PLA observer lamented that “the contradiction between the constantly evolving demand for mobilization and the imbalance in mobilization preparation is still outstanding.”⁶⁸ More specifically, efforts to meet these changing demands had been hindered largely due to limited sustained funding, inadequate laws and regulations, and a lack of data standards.⁶⁹ Recently, the PLA held its first national defense mobilization forum in Beijing to examine how to build and develop the data resources necessary for effective mobilization. The conference participants recognized that upgrades to the PRC’s NDMS were necessary to support informatized operations and that the PLA needed to develop its mobilization data resources in several areas, including the use and mining of big data.⁷⁰

⁶⁶ Jia Yong, 2019.

⁶⁷ Liu Shiyang and Miao Peng, “Datong City of Shanxi Province Builds a Smart Command Chain on the Basis of the ‘Smart National Defense Mobilization’ Project,” *China Military Online*, May 8, 2019; “Joint Effort in Researching and Developing Smart Mobilization Information System, Emergency Rescue Provided with ‘Smart Brain,’” *PLA Daily*, May 12, 2021; “Xi Jinping Meets with Representatives to National Conference for Naming Model Cities (Counties), Commending Model Units, Individuals in Supporting Army and Giving Preferential Treatment to Families of Revolutionary Army Soldiers, Martyrs and Supporting Government and Cherishing People; Li Keqiang Participates in Meeting Representatives, Speaks at Commendation Conference; Wang Huning Participates in Meeting Representatives,” *Xinhua*, October 20, 2020.

⁶⁸ Mu Xianzhong, “Analysis on Strengthening the Construction of Core Support Capability of National Defense Mobilization in the New Era,” *National Defense*, No. 10, 2019.

⁶⁹ Mu Xianzhong, 2019.

⁷⁰ Xu Kui and Mo Shiyang, “First National Defense Mobilization Development Forum Held in Beijing,” *PLA Daily*, April 13, 2021.

The problems of peacetime and crisis authorities for data collection and management become strategic management and command problems in wartime and, accordingly, a major criticism of the PRC's NDMS is that it lacks the necessary mechanisms for transforming China's war potential into combat capability in wartime or other emergency situations.⁷¹ From this perspective, the peacetime management problem of deconflicting civil and military responsibilities becomes even more complicated in wartime because of the mobilization system's complexity and the wide array of services and resources it is expected to provide. The problem of national defense mobilization command has been summed up as one of integrating "military operational command and social mobilization command."⁷² Most critically, at this point the command elements at all levels for mobilization activities do not integrate effectively into the theater command system.⁷³ Indeed, in one of the first publications written to educate theater commanders and staffs on the functions of theater joint command, there is only limited discussion of the mobilization process, with most attention devoted to mobilizing forces in theater and the development of theater political work plans.⁷⁴

Xi's concerns with mobilization are not limited to perceived problems with the current NDMS. The Chinese view of mobilization is expansive and includes such critical tasks as civil defense and national defense education, both of which have received attention from Xi. Based on the PRC's views of what conflict with the United States might look like, there have been efforts in the past several years to modernize civil air defense to better deal with modern informatized air strikes against key population and economic centers.⁷⁵ Furthermore, the PRC's top leaders clearly stated the importance of civil air defense to China's national defense during the Seventh National Civil Air Defense Conference in Beijing in 2016. During the conference, Xi

⁷¹ Zhang Jiale, 2019.

⁷² Mu Xianzhong, 2019.

⁷³ Mu Xianzhong, 2019.

⁷⁴ Liu Wei, 2016, pp. 71–81.

⁷⁵ "China Strives to Build Information-Based Civil Air Defense System," *PLA Daily*, June 15, 2015.

declared that civil air defense is part of China's long-term national strategy and that "the civil air defense system should improve their capabilities, providing a shield against air raids during wartime."⁷⁶ PRC Premier Li Keqiang also told reporters that future urban planning should include civil air defense facilities with an expanded focus on protecting economic resources by extending underground construction.⁷⁷ Civil air defense exercises in major cities, such as Shanghai, Chongqing, and Nanjing have also demonstrated the importance of effective preparations, particularly in terms of C2 of local civil air defense operations.⁷⁸

Civil air defense exercises maintain an explicit connection to national defense education and demonstrate the importance that PRC leaders place on the nonmaterial elements of mobilization. For example, "Jingdun-2014" was a civil air defense exercise held in Beijing in 2014. The exercise itself was held on the "14th Nationwide National Defense Education Day" and covered establishing a command center, planning and organizing civilian "anti-air raid actions," converting peacetime facilities for wartime use, public relations and propaganda, and the protection of key economic targets.⁷⁹ In other years, senior military leaders have conducted inspection tours. CMC member and Defense Minister Chang Wanquan toured several cities in 2017 and called for "military and governments at all levels to strengthen national defense education" by using historical examples, memorials to martyrs, and propaganda to help maintain a revolutionary spirit. The importance of these practices and tools, particularly for attracting young people to learn about national defense, was captured in a work plan released in 2019 that included

⁷⁶ "Xi Stresses Civil Air Defense for China's Development," Xinhua, May 13, 2016.

⁷⁷ "Xi Jinping: Let Civil Air Defense Serve People and Create New Prospect for Civil Air Defense," Xinhua, May 13, 2016.

⁷⁸ Liu Shiming and Xie Yuxiu, 2014; "Beijing Holds Air Raid Drill to Raise National Defense Awareness," Xinhua, September 19, 2015; Yan Xiaoping and Sui Zhong, "In Shapingba District, Chongqing Municipality, a 120-Member New-Quality Militia Appears at the Site of an Air Defense Exercise," *PLA Daily*, July 3, 2019; "Jingdun-2014 Air Defense Exercise Held in Beijing," *PLA Daily*, September 22, 2014.

⁷⁹ "Jingdun-2014 Air Defense Exercise Held in Beijing," 2014.

opening PLA barracks in ten cities, educational lectures, and other learning activities.⁸⁰

Xi's concerns with mobilization in the "Four Will They or Not" questions reflect his concerns about several areas of political work. Loyalty to the Party and persuading the population to provide what it is asked to provide during wartime depend directly on the CCP's and PLA's political work efforts. Similarly, effective mobilization also requires effective compliance monitoring and limited corruption. The CCP and PLA have enacted programs and guidelines to prevent corrosive behavior, which is a sign of progress; however, the need for such measures indicates a large and persistent problem for Xi.⁸¹

Fighting and Winning Wars

Xi's concern about the PLA's ability to fight and win wars centers effective preparation. Accordingly, "preparation for military struggle" is one of the key elements in *China's Military Strategy* and has continued as a major theme in the PRC's effort to create a modern military.⁸² The 2015 strategy said that "preparation for military struggle is a basic military practice and important guarantee for safeguarding peace, containing crises, and winning wars."⁸³ It further stated that effective preparation requires PLA forces to be capable of "fighting and winning," "solving major problems and dif-

⁸⁰ "China Issues Work Plan on National Defense Education," Xinhua, February 24, 2019.

⁸¹ "Central Military Commission Chairman Xi Jinping Signs Order to Promulgate Newly Revised 'Regulation on Military Audit,'" Xinhua, December 21, 2016; "Important Measure to Strengthen Inner-Party Supervision in the Military," 2018; "Chinese Army to Tighten Expenditure," 2013.

⁸² State Council Information Office, 2015; Liu Jianwei, "The Military Needs to Prepare for Combat—Representatives of the People's Liberation Army and the Armed Police Force Talk About Preparing for Military Struggle from a New Starting Point," *PLA Daily*, March 4, 2019.

⁸³ State Council Information Office, 2015.

ficulties,” and undertaking “practical preparations” in a “solid” and “relentless” manner.⁸⁴

There are many elements that potentially could be used to establish criteria for effective preparation for military struggle, but this report relies on three key areas outlined in *China’s Military Strategy* and embedded in high-level policy from China’s most senior leaders. The first of the three areas, system-of-systems operations, is foundational and embodies informatized warfare. The second area, joint operations, has also received sustained high-level support for more than two decades and been a core element of China’s modernization efforts since the initial research into joint campaign doctrine. Finally, training has long been recognized as a major priority and is outlined in *China’s Military Strategy* as a topic of “strategic importance” to the PLA.⁸⁵

The PLA has made sustained efforts in each of these three areas dating back to the mid-1990s with the research-oriented “95 Project,” which began the process of developing the PLA’s joint operations doctrine.⁸⁶ At the same time that this project was underway, the PLA also began concept development for and experimentation on military training in an effort to improve training methods, particularly for joint operations.⁸⁷ The long-term emphasis was also backed by interest from the last two Chairmen of the CMC—Jiang Zemin (initiated PLA joint operations projects), Hu Jintao (directed development of information-based system-of-systems operations concepts)—and Xi, who oversaw the largest PLA reorganization in a generation. The high level of leadership attention, the extended time span, and the number of resources devoted to these three areas demonstrate the critical importance that each has for the PLA’s preparations for military struggle and, more specifically, for developing the PLA’s ability to fight and win. Xi’s concern with the PLA’s ability to meet this requirement reflects the PLA’s

⁸⁴ State Council Information Office, 2015.

⁸⁵ State Council Information Office, 2015.

⁸⁶ For an example of one of the key texts published under this program, see Wang Jiang Zhun and Lu Li Hua, 1999.

⁸⁷ Wu Quanxu, *Science of Military Training*, Beijing: Military Science Publishing House, 2003.

progress in these three areas and highlights a key issue in how he likely evaluates the U.S.-China military balance.

System-of-Systems Operations

Following a decade-long period of experimentation and training with new concepts, such as target-centric warfare and information-firepower warfare, *China's Military Strategy* directed the PLA to “endeavor to address the pressing problems constraining capabilities for system-of-systems operations.”⁸⁸ Key texts outlining the core concepts also discussed the PLA's problems with standardized data collection, sharing, and dissemination that ultimately diminish the ability of the integrated command platform to support dynamic targeting and decisionmaking requirements.⁸⁹ Similarly, in spite of the PLA's gains in building informatized systems, standardization problems continue with “still notable problems in systems construction like ‘separate’ construction, everyone going it alone, everyone taking just what they need, bad compatibility, and difficulty in harmonization.”⁹⁰

China's Military Strategy highlighted system-of-systems shortfalls—comprehensive support, reconnaissance, early warning, C2, and long-range precision strike—and directed the PLA to address these areas to effectively prepare for military struggle. Since the strategy was issued, there has been a call within the PLA to improve the combat-orientation and realism in systems warfare training so that it can “check and balance a strong enemy.”⁹¹ Most notably, the criticism from PLA sources regarding current PLA training is that there are shortcomings in the effective integration of joint functions, including planning, firepower, and reconnaissance capabilities.⁹²

⁸⁸ State Council Information Office, 2015.

⁸⁹ Dong Lianshan, 2015, pp. 233–234.

⁹⁰ Dong Lianshan, 2015, p. 216.

⁹¹ Song Xin, “Do a Good Job in Starting Work for National Defense and Armed Forces Building During the 14th Five-Year Program Period; Greet the 100th Anniversary of the CPC's Building of the Party with Outstanding Achievements,” *PLA Daily*, March 10, 2021.

⁹² Huang Cheng and Lu Feng, “Accurately Grasp the Focal Points for Effort on Combat-Realistic Training,” *PLA Daily*, February 8, 2018.

Xi's training mobilization orders in both 2020 and 2021 have emphasized "system-of-systems" training and the examination and evaluation of operational concepts and plans.⁹³

In addition to standardization and training, another key area in which Xi sees problems in the PLA's system-of-systems development is decision-making. The issue of command is a broader concern that will be addressed in a subsequent section; however, decisionmaking is related to the ability of staff officers and commanders to make the types of decisions necessary for the PLA's systems warfare-centered operational concepts to work. Operational adaptability has been identified as a core capability for the PLA to be able to fight in complex environments. It requires flexible organizational relationships and structures, command patterns, and force groupings to tailor the necessary types of "new-type" elite forces appropriately given the assigned mission objectives and tasks.⁹⁴ Some reports point out that PLA officers and their units have not had significant experience with system-of-systems operations, limiting their ability to adapt to new structures and functions necessary for modern warfare.⁹⁵

Joint Operations

PLA strategy documents and official publications have explicitly linked systems warfare and joint operations as closely interrelated topics. The preceding section focused on core concepts of systems warfare and overarching problems identified in PLA writings, such as a standardized process for collecting and sharing data, the integration of key operational systems (e.g., reconnaissance and command systems), and flexibility and adaptability in executing systems warfare-related concepts. PLA concerns about joint operations build on these themes in the areas of culture, operations, and

⁹³ "The Central Military Commission 2020 Training Mobilization Order," Xinhua, January 2, 2020; "Xi Jinping Signs Central Military Commission Order No. 1 of 2021 to Give Mobilization Order for Training to All Armed Forces," Xinhua, January 4, 2021.

⁹⁴ Yan Xiaofeng and Jiang Yan, "How to Improve the Military Force's Operational Adaptability," *PLA Daily*, February 4, 2020; Wang Yongnan, 2015, pp. 26–27.

⁹⁵ "Speed Up Boosting Solid Command Capabilities—Study and Follow Chairman Xi Jinping's Important Speech Delivered During His Inspection of the Southern Theater Command," 2018.

command and staff functioning. All three topics were central ideas in the PLA's 2016 reforms. Massive organizational change and realignment was arguably the 2016 reform's most noticeable facet. Within these changes, the objective for creating joint command and strategic management structures stood out as a primary goal. The stand-up of the CMC's Joint Staff Department, the creation of theater commands, and the creation of joint organizations, such as the SSF and Joint Logistics Support Force, all reflect the ambition with which Xi undertook these reforms.

At the organizational level, the CMC's efforts to promote jointness across the PLA—in large part by reducing the PLA Army's long-held preeminence and elevating the PLAAF and PLAN—were apparent. However, as the organizational changes took root, the development of a joint culture has been slow to take hold. One of the first changes undertaken following the reform was the development of a new course of study at the PLA's NDU for joint commanders and staff officers. Several publications highlighted the importance of these courses and materials, and the message was reinforced during Xi's visit to the NDU in 2017. The materials for these courses covered a wide variety of topics, including joint operations theory, operational planning and command, and joint warfighting concepts. Similarly, the CMC placed special emphasis on joint operations in its training mobilization orders beginning in 2018, the first year these orders were issued. Despite these initiatives and high-level emphasis on the importance of jointness to the development of PLA capabilities, problems have persisted, with editorials decrying the absence of a developed joint culture, the poor quality of joint training, and a lingering focus on single-service training that has limited progress in developing jointness in the PLA.

The lack of progress in changing the PLA's service-oriented culture has also limited progress in the realm of operations. PLA officers have been noted as having a lack of joint command and staff experience, limited familiarity with planning, and poor understanding of other services' capabilities. Accordingly, the PLA recognizes that its new CONOPs and the employment of "new-type" units as part of those concepts are limited by many officers' lack of exposure to joint environments and limited experience exercising and training with their counterparts in other services. While there have been improvements in upgrading joint training content in recent years,

commentaries and senior-level direction have noted the negative effect that this lack of realism has had on PLA capability development.

Training

The central importance of military training in ensuring the capability to fight and win was clearly stated by Xi in late 2020 at the CMC's All-Army Training Conference. Xi stated that "military training is the center of troops' regular work, the fundamental way to generate and enhance combat capacity, and the most direct preparation for military struggles."⁹⁶ He then went on to reiterate the need to strengthen the PLA's realistic combat training in a way that more closely resembles actual combat. As previous sections have discussed, there are a variety of issues that have led to calls for improving training, including poor "work styles," lack of compliance with new training standards, and continued "formalism" and "bureaucratism" in training events that stress training for the sake of training or events designed to meet the path of least resistance as opposed to stressing units in challenging scenarios. A key element in how the PLA is addressing these issues is tied back to Xi's emphasis on political work, particularly the use of discipline and inspection teams and messages to PLA leaders and units to uphold party directives and guidelines.

Over the past two and a half decades, the PLA has placed a significant amount of attention and resources on improving training and raising PRC military training to international standards. Beginning with efforts in the mid-1990s to explore new methods of training, beginning with experiments to train with digitized units, the PLA has expanded the complexity of its training in many areas. Most notably, there has been a marked increase in exercises emphasizing joint operations, long-range mobility, new operational concepts, complex EM environments, unfamiliar terrain, and the use of units serving as adversaries or aggressors. More recently, Xi has called for added emphasis on joint operations, decisionmaking, employment of "new-type" units and capabilities, and implementation of systems warfare concepts in training. At Xi's direction, PLA training has also emphasized PLA political work to improve "fighting spirit" and Party loyalty within the ranks.

⁹⁶ Li Xuanliang and Liu Jimei, 2020.

The PLA has also sought to build advanced training facilities for both service-related and joint training events. These bases have been used on a number of occasions for experimentation on new concepts and have been touted in PLA publications for their role in enhancing realistic training. *China's Military Strategy* also directed the PLA to establish a “training supervision and inspection” system, which was eventually codified in 2018 as part of the OMTE. Both developments have led to improvements in PLA training, but both efforts continue to encounter problems. Joint training bases have been highlighted relatively recently as still needing massive improvements in infrastructure and facilities. In addition, the training conducted at these bases has been held up as an example of the “formalism” that the PLA has tried to eradicate. Teams from both the CMC Discipline and Inspection Department and the Training Administration Department have routinely been sent to evaluate training events and ensure compliance with CCP political work directives and the OMTE, respectively. However, as in several other areas of training, there have been repeated calls for more standardization and robust monitoring and supervision of PLA events in light of poor-quality training and limited realism.

Xi's aggressive call for improved training follows long periods of development and several different attempts at training reform and innovation. The OMTE published in 2018 follows previous OMTE guidance in 2009 and 2002, both of which called for improved realism and the use of combat-relevant training content. Similarly, PLA experimentation on joint operations training methods began in 2001 under the *Five-Year Plan on Headquarters Informatization Building, 2001–2005*.⁹⁷ Subsequent joint training events and exercises were larger and more complex, but calls for realism were repeated in later OMTEs, as well as calls for means to ensure quality and standardization across the PLA. Since the latest version of the OMTE was published, calls for similar improvements have only continued.

⁹⁷ “Push Forward Revolution in Military Affairs with Chinese Characteristics, Build Informatized Command Organs—Excerpts of Advanced Typical Experiences from the All-Army Conference on Headquarters Building,” *PLA Daily*, September 28, 2004. For an in-depth discussion of PLA slogans, see Dennis J. Blasko, “PLA Weaknesses and Xi's Concerns about PLA Capabilities,” testimony before the U.S.-China Economic and Security Review Commission, February 7, 2019a.

Leadership and Command

The final of Xi's "will they or not" questions centers the ability of PLA commanders to lead their units in war. Previous sections on political work and joint operations addressed related elements of Xi's concerns; however, the most serious critique of PLA commander performance is captured by the PLA slogan the "Five Incapables," which calls out officers who cannot (1) judge situations, (2) understand higher authorities' intentions, (3) make operational decisions, (4) deploy troops, and/or (5) deal with unexpected situations.⁹⁸ This critique is particularly problematic for the PLA as it attempts to employ operational concepts that rely on flexible uses of joint force groupings, mission command, and adaptive firepower for dynamic targeting. It also points to broader problems of trust between higher levels of leadership—both party and PLA—and lower-level commanders. Xi raised the importance of loyalty and trust in 2017 during an inspection of Navy organizations and directed those present to "ensure that the Navy is loyal to the party and that the ship will not drift off course even if it sails for thousands of miles."⁹⁹

The PLA's systems warfare concept depends on commanders being able to evaluate developing situations and then tailoring force packages to accomplish tasks in support of higher-level objectives.¹⁰⁰ To effectively tailor these integrated force packages, it is critical that PLA commanders ably understand and apply the strategic direction provided to them from senior levels.¹⁰¹ Xi's concern in this respect is twofold. The first and most critical problem is ensuring that officers in the PLA are loyal to the Party's leadership and do not turn on the Party if the overall situation deteriorates. The second problem is to ensure that commanders will faithfully work accord-

⁹⁸ Wang Xueping, "Exert Effort on Resolving the 'Five Unable' Problem of Command Personnel," *PLA Daily*, June 18, 2019; Liang Pengfei and Wu Xu, "Focus on the Three Major Bottleneck Problems and Implement Resolution of Measures and Methods—Vigorously Push Forward Solving Difficult Problems Plaguing Combat-Realistic Training PLA-Wide," *PLA Daily*, July 30, 2018.

⁹⁹ Li Xuanliang and Wu Dengfeng, 2017.

¹⁰⁰ Qian Weichao and Yi Xiaoming, 2015, pp. 196–198; Dong Lianshan, 2015, pp. 60–63.

¹⁰¹ Wang Yongnan, 2015, p. 73.

ing to the overall war plan and not secondary objectives received from lower-level commands or their personal networks. Likewise, the ability to follow orders assumes that commanders will act when called upon instead of hesitating for fear of failure and the repercussions of failure.

The problem of the “Five Incapables” is not confined to any one sector of the PLA, but Western observers must be mindful not to overstate the extent of the problem judging by the evidence available. However, this evidence (speeches from Xi, official press, and PLA programs) suggests that the “Five Incapables” remain a problem within the PLA that continues to receive high-level attention. Within the past four years, several reports about training across the PLA showed that the “Five Incapables” were a major instructional topic. One report from a PLAAF confrontation exercise commented that “problems such as the ‘Five Weaknesses’ and ‘Five Incapables’ are, in reality, still in front of our eyes.”¹⁰² The article relayed how the base commander became furious with the “Red force” who, under attack from the opposition force, remained in the control tower and did not know how to disperse or conceal the unit’s aircraft in time. An *Air Force News* editorial that compared the PLAAF with “the air forces of the strong powers of the world” stated more plainly that “the ‘Five Incapables’ . . . pointed out by Chairman Xi exist to varying degrees in our units.”¹⁰³ Exercises in the PLAN, PLA Army, and PLARF also stressed the importance of combating this problem because it persisted within their leadership ranks.¹⁰⁴

¹⁰² Qing Sheng, Zhao Yonggu, and Yin Jianyu, “Jointness Will Be Strong and Combined Will Win—Documenting the Thorough Promotion of Combined Tactics Training by a Certain Base of the Air Force of the Eastern Theater Command,” *Air Force News*, May 8, 2020.

¹⁰³ “PLA Air Force Newspaper Commentary on Air Force Commanders’ Assembly Training,” *Air Force News*, June 6, 2017.

¹⁰⁴ Zeng Kai and Xu Xingxing, “A Unit’s ‘Commander’s Tent’ Takes on Prevailing in Battle as Primary Responsibility,” *Rocket Force News*, September 11, 2018; Zhang Xuanjie and Li Bingfeng, “Rocket Force Focuses on Real Combat, Organizes Skills Competition for Missile Brigade Regiment Commanders,” Xinhua, January 13, 2019; Wang Weidong and Li Yongfei, “Sharpening the Blade of the Long Sword of a Major Power—The Story of the Rocket Force’s Efforts in Eradicating Bad Habits of Peacetime and Training Winning Capabilities in a New Era,” *PLA Daily*, July 18, 2018; “South Sea Fleet Organizes Combat Tactic Assembly Training for Commanding Officers,” *PLA Daily*, January 13, 2018; “Speed Up Boosting Solid Command Capabilities—Study and

Among many editorials in *PLA Daily* examining the importance of developing the ability of PLA commanders, an article from late 2018 argued that the PLA could improve its “battle winning capabilities” only by “accelerating the building of strong and efficient joint operations command organs.”¹⁰⁵ The article went on to state that commanding officers must improve their capabilities in “war preparedness, warfighting, and command for task execution” as they adapt to the PLA’s new theater command structure. A similar *PLA Daily* article written in May 2021 demonstrates that the sense of urgency and concern remains. The article argued that the PLA needed to “speed up improvements in capabilities for strategic decisionmaking and strategic command” and that training for high-level commanders should be improved.¹⁰⁶ Xi’s comments immediately following the stand-up of the CMC Joint Staff Department and the theater commands indicate the importance that Xi personally attaches to this issue. The many official press reports since the reorganization provide a broader picture of why Xi remains so concerned about PLA commanders and their ability to lead.

Conclusions

The four areas that Xi talks about most offer a telling view of the systemic problems with which the PLA continues to wrestle. Although Xi’s concerns with the PLA’s ability to “fight and win wars” and its problems with leadership and command are areas that Western analysts would more readily identify as potential problem areas, the PLA’s political reliability and ability to mobilize likely are not. From the broader perspective of systems warfare, however, it is easier to see why problems in these four areas absorb consid-

Follow Chairman Xi Jinping’s Important Speech Delivered During His Inspection of the Southern Theater Command,” 2018.

¹⁰⁵ “Speed Up Boosting Solid Command Capabilities—Study and Follow Chairman Xi Jinping’s Important Speech Delivered During His Inspection of the Southern Theater Command,” 2018.

¹⁰⁶ Yang Guodong, Yang Shengli, and Liang Xiaoping, “To Train Troops, First Train Commanders—Continually Enhance Innovations in Strategic Training,” *PLA Daily*, May 25, 2021.

erable leadership attention. In the end, these four areas are essential elements in the PLA's willingness and motivation to fight, its ability to convert China's war potential into war strength, its combat capability, and the ability of its commanders to lead the strategically important tasks in support of the CCP's overall objectives and war plan. According to PLA observations of the United States' adversaries over the past three decades, problems in these areas have been key contributors to each adversary's systemic failure and ultimate defeat. Judging by the PLA's explicit statements on the centrality of system-of-systems operations in modern warfare, the four elements that Xi is most concerned with are core determinants of the PLA's ability to fight against adversaries as they have defined the conflict—that is as a confrontation between opposing operational systems. The PLA's remaining challenges in developing a well-led, reliable, flexible, and proficient military force are a key indicator that Xi may lack confidence in the PLA's own operational system's ability to confront the United States military, which remains the benchmark of systems confrontation and systems destruction warfare.

China's View of Military Balance

Frequently, Chinese discussions of the PLA characterize broad problem sets but offer little in terms of specific details. Over the years, problems with PLA training and joint operations development have been discussed, but often they are described by terms such as “formalism” or “bureaucratism” with few specific details about actual behaviors and practices. Likewise, reporting on PLA training events will discuss general problems regarding the lack of realism or standardization without any more-granular discourse on practices that contributed to the flaws or how these shortfalls manifested themselves in the training events or exercises being reviewed. Shortcomings are also not always the most prominent features in individual reports and may not reflect the issues that concern CCP or PLA leaders the most. For this reason, identifying the details of particular problems from PRC official press and PLA publications is difficult. The concerns discussed in these publications leave plenty of room for biased interpretations and may be discounted or overemphasized by outside observers.

This examination of the PRC's view of the military balance relies on these reports, but we consider them in the context of the strategic guidance, directives and regulations, and programs directed by China's senior political and military leaders. Accordingly, the findings presented in this section are qualitative reflections of key areas of PLA readiness and capabilities that take into account what key guidance, directives, and programs are telling the PLA to do and follow-on discussions in leadership speeches and official press about progress in these core areas. Those areas that are of vital importance to the PLA's modernization or that address important new concepts will often receive extended discussion in the PRC's official press, providing details of leadership inspections, concept development, experiments, training, and how units are implementing new directives and programs. Simi-

larly, these sources also address more general, systemic issues confronting the PLA that cut across multiple categories.

China's Military Strategy, along with evidence of programmatic and material change across most aspects of the PLA, demonstrates PRC leadership's desire for comprehensive modernization and improvement in a number of areas. The strategy itself directs PLA action in a wide variety of capacities encompassing organizational reform, armed forces building, technological modernization, and the development and refinement of CONOPs. While each of these areas is important, they do not all have the same priority for PRC leaders. Accordingly, in considering how China views the military balance, understanding these priorities becomes critical. Based on this report's scope and the realization that some reform and modernization areas are higher priorities for PRC leaders, this report will use those areas that Xi "thinks about most" as the baseline for evaluating how PRC leaders, particularly and most importantly Xi, view China's military and the impact that those views have on their assessment of the military balance.

What Xi's Concerns Mean to the PRC's Views of the Military Balance

From the beginning of his tenure as Chairman of the CMC, Xi has led the push for PLA reform in several areas, including organizational realignment, political work, operational innovation, and anticorruption, among many other areas. Xi's statement that four areas in particular are the ones he thinks about most should be taken seriously, particularly in terms of how he views the PLA and its ability to meet strategic missions and tasks outlined by the CCP. As the Chairman of the CMC, Xi's imprint on PLA modernization over the past decade is significant, and his direction for the next decade will build on these reforms. Those areas that most concern Xi, being the leading voice and architect of these reforms, should be seriously considered based on his policy priorities and his outsize role in leading the Party and the PLA.

Xi's consolidation of political power has allowed him to accrue more power than any PRC leader since Mao. Political work messages to the PLA have reinforced Xi's central role as the "core" and explicitly highlighted his

position as the most senior decisionmaker in the chain of command. Likewise, from a political standpoint, Xi does not have a designated successor and has instituted a number of programs to ensure that his leadership of the CCP and PLA is unchallenged. As a result, Xi's perspectives on the PLA, the international security environment, and China's social and economic progress are paramount considerations in the PRC's decisionmaking process across the board, including decisions about the use of force.

In addition to Xi's central role in the decisionmaking process, the four areas that Xi prioritizes reflect categories that Western observers tend to pay far less attention to when considering China's military capabilities. The preponderance of Western attention is focused on the development and fielding of weapon systems, exercises, geographic proximity, organizational changes, and the "optimized" application of these capabilities to specific planning scenarios. Broadly speaking, each of these areas is "observable" and generally quantifiable.¹ Western publications regularly report on the number of platforms or weapon systems being produced and becoming active in the PLA's inventory. Likewise, reorganizations, exercises, and training can be documented and counted according to organizational affiliations, numbers of people or units involved, and the frequency of events. In contrast, those areas most discussed by Xi generally involve intangibles and qualitative judgments, such as fighting spirit, loyalty, reliability, and command ability. Currently, there are few methods that allow researchers to convincingly quantify any of these criteria, mostly because of the lack of acceptable methods compounded by less available detailed reporting and data.

Xi's concerns also reflect more of a political-military dynamic for assessing military balance than is applied by Western observers. China's historical experience in war has frequently involved significant damage and destruction of Chinese property and lives during protracted conflicts. These conflicts, at times, have also involved changes in allegiance and the emergence of alternate power centers (e.g., Chinese fears of "warlordism") that have been determinative factors in the outcomes of battles and wars. The presence of "People's War" and "active defense" in PRC strategy reflects the importance of China's population in any war effort, particularly in terms

¹ For a specific representative example, see Heginbotham et al., 2015.

of loyalty and mobilizing economic and social resources for wartime use. In addition, the PLA's role as a Party army places it in a political context very different from Western militaries in the post-Cold War era. CCP concerns over the PLA's political loyalty and allegiance—which includes enforcing and protecting CCP authority, following its strategic guidance, maintaining stability, and motivation to follow Party leadership in war—has had few, if any, parallels in modern Western militaries.

Xi's Concerns and PLA Systems Warfare Capabilities

If examined individually, Xi's concerns might be discounted as perceived rather than actual problems and secondary to the PLA's true combat capability. Indeed, the growth and modernization of PLA inventories in all services and the increased sized and complexity of major exercises would suggest to many observers that these problems are secondary concerns that likely would be alleviated or minimized in an emergency. In addition, PLA planning scenarios and campaign-level operations tend to emphasize mass employment of weapons and forces at the expense of issues such as mobilization, proficiency, motivation, experience, and effective command. All of the latter areas have been key areas of emphasis for PLA modernization and reform over the past two decades.

Regardless, those areas of military development that Xi talks about most are all critical elements in the PLA's concept of system-of-systems operations. The PRC's emphasis on system-of-systems operations extends back to the PLA's earliest publications on joint operations. Even at this early stage, PLA teaching materials stated clearly that modern combat was, in its essence, a contest of two opposing operational systems. The initial development of PLA concepts of joint operations were based on this understanding, and Hu's directive to the PLA at the end of 2005 made "information-systems-based system-of-systems operations" a core element guiding the development of PLA operational concepts. More recently, PLA authors have made it clear that the human element in systems warfare is critical for success. Although Xi's areas of concern are ones in which technology and informa-

tion systems are essential, the centerpiece of the problems he highlights has to do with PLA personnel and their readiness, proficiency, and motivation.

Several foundational texts highlight elements of the PLA's broad systems warfare thinking and more detailed discussions of related operational concepts. Most of these documents were published in 2015, the same year as *China's Military Strategy* and following several experiments in the 12th Five Year Plan devoted to systems warfare operational concepts. Each of these documents provided in-depth discussion on several core capabilities and tenets on which systems warfare and its operational concepts relied. An analysis of Xi's concerns using the systems warfare lens reveals a host of serious problems that, if not addressed, would severely limit the PLA's performance in most scenarios involving a major competitor.

The relevance of Xi's concerns in the PLA's systems operations concepts is most readily apparent in terms of the operational mechanisms that enable a system to function effectively. The operational mechanisms for such concepts as target-centric warfare are critical functions for each of an operational system's constituent parts. These mechanisms regulate system performance and enable an operational system to adjust, organize, and act based on leadership guidance and its designated mission.² The overall control of an operational system relies on these operational mechanisms and "abolishing these mechanisms will inevitably lead to the destruction of the system."³ The four critical operational mechanisms in systems warfare are mechanisms enabling (1) "information sharing," (2) "real-time synchronization," (3) "autonomously organized coordination," and (4) "assessment and feedback."⁴

Each mechanism has both technical and human components. The technical components are an overarching architecture for gathering, processing, analyzing, and sharing battlefield information, intelligence, and C2 information to synchronize operational activities, flexibly tailor force packages according to higher-level objectives, and assess the effectiveness of operational actions to determine whether objectives have been satisfied. The PLA

² Dong Lianshan, 2015, pp. 63–65.

³ Dong Lianshan, 2015, p. 63.

⁴ Dong Lianshan, 2015, pp. 63–66.

has placed significant emphasis on developing the technological architecture necessary for systems warfare through the development of its ISR capabilities along with its ICP and subcomponents dedicated to automated decision aids and targeting functions.⁵

The human element involved in each of the operational mechanisms has received significant attention in several PLA texts and press reports that largely echo key themes related to Xi's concerns. At the broadest level, these operational mechanisms require commanders at all levels and their supporting staffs to be able to assimilate information, make timely decisions, and tailor plans for force packages according to senior-level intent. One key PLA text on theater command highlights a central problem in this area: getting commanders to maintain a balance between "trusting people but not machines" and not falling into the tendency to "trust technology too much, improperly attempting to use scientific modeling to predict results, and then centralizing control of operations."⁶ Similarly, PLA texts argue that the ability to establish and maintain trust across service elements in joint operations and between all levels of the chain of command is vital to an operational system's proper functioning.⁷ Systems warfare relies on coordination among operational elements and "ensuring the integration of operational forces and the environment in time and space, as well as of every system within the operational system," which, in turn, "requires that each service branch be familiar with the others, that they understand one another and have a high level of trust."⁸ Likewise, effective coordination and synchronization requires "a deep connection and mutual trust between the subject and object of command."⁹ Trust within an operational system is thus based on knowledge of how all system components function (i.e., service capabilities and specialties), trust that commanders at all levels will understand and

⁵ Dong Lianshan, 2015, p. 45. An ICP enables "unified information formats, data interfaces" and "information platform standards" to ensure that "various elements have both horizontal and vertical compatibility."

⁶ Liu Wei, 2016, pp. 125–133.

⁷ Liu Wei, 2016, pp. 298–299; Wang Yongnan, 2015, p. 201.

⁸ Wang Yongnan, 2015, p. 201.

⁹ Wang Yongnan, 2015, p. 201.

implement higher-level guidance, trust in the information system's integrity and accuracy, and trust that other parts of the operational system will be capable of executing their assigned tasks.

Along with the operational mechanisms that make systems warfare possible, an effective operational system depends on the employment of joint combat forces that are (1) organized and structured based on overarching objectives and assigned tasks, (2) composed of the appropriate numerical and qualitative mix of "elite forces" capable of accomplishing specified missions, and (3) capable of adapting to dynamic and uncertain battlefield situations.¹⁰ The three characteristics require that commanders possess the decisionmaking skills and operational knowledge to command joint force groupings, tailor and deploy them based on the conditions at hand, and assess the relative success of their operations according to assigned tasks.¹¹ This combination of command responsibilities has been a subject of repeated discussion within the PLA. Decisionmaking is a commander's basic responsibility and a critical element in command planning. In recent years, several articles have noted the need to reinforce this message by emphasizing the avoidance of mechanical, "scientific" thinking at the expense of military art.¹² PLA commanders have been reminded to ensure that they tailor operations to "the intent of higher authorities, the actual condition of [the commander's] unit, and the relevant situation."¹³ Likewise, there have been calls to improve the PLA's operational adaptability by improving its organizational flexibility and command capabilities while also improving its ability to generate forces for diverse missions and complex tasks.¹⁴

Xi's concerns also address broader questions regarding the PRC's strategic systems and its ability to ensure system integrity and sustainability during conflict. Programs to build and strengthen national defense educa-

¹⁰ Tan Song and Mu Yongpeng, *Science of Joint Tactics*, Beijing: Military Science Press, 2014, pp. 110–113.

¹¹ Hu Youcai, "Implementation of Operations Command Must Be 'Balanced with Art,'" *PLA Daily*, November 2020.

¹² Hu Youcai, 2020.

¹³ Wu Xu and Li Yuanhao, "Solidly Raise the Capability of Making Battle Determinations," *PLA Daily*, September 3, 2019.

¹⁴ Yan Xiaofeng and Jiang Yan, 2020.

tion and civil air defense are promoted as core requirements in future non-contact, informatized wars. Renewed emphasis on these areas demonstrates a recognition that extends back to PLA lessons from Kosovo and Iraq that maintaining civilian morale and order are essential to wartime success.¹⁵ Continued concerns about the NDMS's command relationships, information architecture, and data quality are part of an ongoing effort to leverage China's growing economic and social resources.¹⁶

In the broader context of systems warfare, Xi's questions about political reliability, command, and the ability to deploy forces in combat (i.e., "combat power generation") are indicators of major systemic concerns about the PLA's readiness for major power conflict. The requirements that system-of-systems concepts levy on the PLA are massive changes from earlier ways of doing business. These new methods—embodied in concepts like target-centric warfare, information-firepower strike, and vital point-controlled annihilation warfare—break down large military operations (i.e., campaigns) into components made up of multiple, time-sensitive tasks. Planning for individual tasks is pushed down to lower levels and places an imperative on subordinate commanders from the strategic to tactical levels to understand and implement leadership guidance. The time-sensitive nature of individual tasks and their relationships to one another and success criteria in individual phases forces commanders to be flexible and creative in how they tailor these force groupings and adaptable to changing conditions and the availability of assessment data. Finally, this relatively new and evolving operational system requires increased awareness and mutual trust at all levels in the chain of command. This means awareness of leadership intent, awareness of conditions in other force groupings and commands, and senior leadership awareness of the actual conditions at the lower opera-

¹⁵ "Chinese Defense Chief Stresses Reform and Development of Civil Air Defense," *PLA Daily*, May 11, 2015; Zou Dongmei, "Focus Efforts on Raising Technological Elements in Civil Air Defense," *PLA Daily*, June 28, 2019; "PLA Deputies to NPC Call for Revision of Civil Air Defense Law," *PLA Daily*, March 13, 2013; "Xi Stresses Civil Air Defense for China's Development," *Xinhua*, May 13, 2016; "China Issues Work Plan on National Defense Education," 2019; "Defense Minister Stresses National Defense Education," *Xinhua*, May 14, 2017.

¹⁶ Zhang Jialei, 2019; Mu Xianzhong, 2019; Xu Kui and Mo Shiyong, 2021; Liu Shiyang and Miao Peng, 2019.

tional and tactical levels. Mutual trust that individual system elements will faithfully and competently execute their assigned missions based on the PRC's overall war aims is central to confidence at all levels in the system.

Systemic Assessments

Those areas that the CCP and PLA view as essential requirements for future warfare or problem areas that require leadership attention can be found in three types of systemic assessments. The first is the slogans and themes used to either emphasize specific leadership initiatives or highlight persistent contradictions and concerns that require sustained attention. Recent work on slogans such as the “Five Incapables” and “Two Inabilities” are examples of these types of systemic assessments.¹⁷ The second type of systemic assessment is published in official reports or directives. These are typically speeches or written guidance from senior CCP or PLA leaders, most importantly Xi and other members of the CMC. Although the slogans and themes in the first self-assessment category are almost exclusively negative and highlight problem areas, official reports and directives frequently will acknowledge both progress and challenges. The final self-assessment category is found in reform programs. Discussion surrounding the reforms will, at times, provide explicit details about the problems or new conditions that brought about individual reforms; however, several instances of PLA reforms have been repeated or recurring attempts to improve specific problems. Two long-term examples of this type of self-assessment are training reform and talent cultivation.

PLA Slogans and Themes

The most prominent PLA slogans and themes have been used in large numbers of PLA press articles to describe problems and operational shortcomings in several different areas, including the general state of the PLA's modernization, its overall warfighting capability, combat leadership, and political reli-

¹⁷ Blasko, 2019a; Dennis J. Blasko, “The PLA Army After ‘Below the Neck’ Reforms: Contributing to China’s Joint Warfighting, Deterrence and MOOTW Posture,” *Journal of Strategic Studies*, Vol. 44, No. 2, December 27, 2019b.

ability.¹⁸ In addition to being general themes carried in editorials and news articles detailing PLA activities, the most prominent slogans have served as themes for key meetings and training sessions across the PLA. These events frequently draw large numbers of senior officers at service- or PLA-wide events. In 2018, as part of PLAN “preparatory training,” senior PLAN leaders, including the PLAN’s Commander, Deputy Commander, and Chief of Staff, along with “high-level Navy command organs, theater command Navy components, and department heads,” assembled to focus on the issue of the “Five Incapables” and develop training guidance to address the problem.¹⁹ Training that same year in the Southern Theater Command, Western Theater Command, and PLARF also emphasized the “Five Incapables” as a core issue that PLA leaders had to address through more-rigorous training and personnel development.²⁰ A PLAAF meeting for high-level commanders a year earlier also attempted to assess the impact of the “Five Incapables” on PLAAF capabilities and noted that this problem “pointed out by Chairman Xi” continued to plague PLAAF units to varying degrees.²¹ As these examples demonstrate, the broad content in these themes receives senior-level attention, and they represent foundational problems in the PLA’s overall progress toward developing an informatized military.

The most prominent themes used in PLA sources are listed in Table 5.1. According to one study, since the unveiling of the “Two Incompatibles” in 2006, these slogans have been discussed over 550 times in *PLA Daily*.²² Over-

¹⁸ Blasko, 2019a.

¹⁹ Cai Nianchi, Sun Guoqiang, and Shen Shu, “Closely Centering on Ability to Fight and Win, Navy Organizes Preparatory Training Ahead of Operational Assembly Training; Focusing on Studying and Resolving ‘Five Incapables,’ Establishing ‘Officer Training Before Crew Training’ Guidance,” *People’s Navy*, June 25, 2018.

²⁰ “Speed Up Boosting Solid Command Capabilities—Study and Follow Chairman Xi Jinping’s Important Speech Delivered During His Inspection of the Southern Theater Command,” 2018; Gan Zuoyu and Sun Libo, “The Western Theater Command Army [TC]—Playing the Key Part in a Branch Combined Arms Operations Training Confrontation,” *PLA Daily*, January 12, 2018; Zhang Xuanjie and Li Bingfeng, 2019.

²¹ “PLA Air Force Newspaper Commentary on Air Force Commanders’ Assembly Training,” 2017.

²² Blasko, 2019a. Blasko’s discussion of the frequency of these slogans is founded on research and data provided by Harvard Professor Alastair Iain Johnston.

TABLE 5.1

Key Themes in PLA Systemic Self-Assessments

Slogan	Components	Issue
"Two Incompatibles"	<ul style="list-style-type: none"> Does not meet the requirements of winning local war under informatized conditions Does not meet the requirements of carrying out its historic missions at the new stage of the new century 	<ul style="list-style-type: none"> Modernization Warfighting capability
"Two Inabilities"	<ul style="list-style-type: none"> Inability to fight a modern war Inability of cadres (officers) at all levels to command in modern war 	<ul style="list-style-type: none"> Modernization Warfighting capability Combat leadership
"Two Big Gaps"	<ul style="list-style-type: none"> The requirements for national security Capability compared to the level of the world's advanced militaries 	<ul style="list-style-type: none"> Modernization Warfighting capability
"Three Whethers"	<ul style="list-style-type: none"> Whether our armed forces can constantly maintain the Party's absolute leadership Whether they can fight victoriously when needed by the Party and the people Whether commanders at all levels are competent to lead forces and command in war 	<ul style="list-style-type: none"> Combat leadership Political reliability
"Five Incapables"	<ul style="list-style-type: none"> Cannot judge the situation Cannot understand the intention of higher authorities Cannot make operational decisions Cannot deploy troops Cannot deal with unexpected situations 	<ul style="list-style-type: none"> Warfighting capability Combat leadership

all, these themes correspond to areas highlighted among Xi's concerns and those most critical to the effective employment of PLA system-of-systems CONOPs. Specifically, themes such as the "Two Inabilities," the "Three Whethers," and the "Five Incapables" all relate to combat leadership, political reliability, and decisionmaking. These three themes, according to recent assessments, account for nearly two-thirds of all PLA discussion of these five areas. Another key feature in these self-assessments is that criticism of

PLA officers' leadership extends to all levels of command. As the content of these themes suggests, the frequency with which they have been addressed in recent years indicates broader concerns within the PLA regarding commanders being able to perform necessary tasks related to combat generation, battlefield coordination, and assessment.

Three of the slogans also highlight broad concerns with the PLA's ability to "meet the requirements of winning local wars under informatized conditions" and its ability to fight modern wars. The connection between the "Two Incompatibles" and informatized warfare also suggests broader problems with technical and procedural aspects of joint operations and systems warfare concepts. From a comparative standpoint, the "Two Big Gaps" is an explicit statement that the PLA continues to lag in its capabilities relative to the world's modern militaries. Early discussions of the "Two Big Gaps" carried a sense of urgency, and resolution of these problems would be a key determinant of "whether the military is able to be called upon at any time, able to fight when it comes, and able to win when it fights."²³ Subsequent references tied together "large aspect" problems in PLA units with the "Two Incompatibles," the "Two Big Gaps," and the "Two Inabilities"—areas that deal with leadership, command, and warfighting—and more-specific trouble areas that included "combat-readiness plans lagging behind, inadequate talented personnel for joint operations, and a lack of scientific and technical knowledge."²⁴ Another report argued that solving these problems was a necessary step in the PLA's progression to becoming a world-class military. It noted that the PLA continued to wrestle with "prominent problems in the force, especially long-standing accumulation of problems in areas like ideals and beliefs, Party principles, revolutionary spirit, organizational discipline,

²³ "Achieving the Ability to Be Called Upon at Any Time, the Ability to Fight When One Comes, and the Ability to Win When One Fights—A Four-Part Discussion on Studying and Implementing the Spirit of the Speeches of Chairman Xi," 2013.

²⁴ "Focus Vigorously and Solidly on the Work of Military Training for Combat-Readiness—Second Commentary on Studying and Implementing the Important Speech Given by Chairman Xi Jinping on His Inspection Tour of the Ground Force Headquarters of the PLA Southern Theater Command," *PLA Daily*, April 24, 2017.

and thoughts and work style” and had yet to resolve the problems associated with the “Two Big Gaps” and the “Two Inabilities.”²⁵

Finally, the PLA has focused on the problem of peacetime routines and their effect on efficiency and motivation. Problems such as the “80/20 phenomenon”—the inefficient relationship between inputs and outputs within the PLA—and other peacetime “malpractices” have created a degree of routine and “formalism” that has impeded the PLA’s ability to implement more-realistic training and improve readiness.²⁶ This lack of experience has led to warnings from some PRC observers that the PLA must be “soberly aware” that because it has not been engaged in combat for over 40 years, “it is lacking in informatized operations experience and lags behind some other military powers in terms of the quality and combat realism of its training.”²⁷ Not only does this lack of experience prevent PLA commanders from obtaining specific skills that are most often developed and refined through practical application, particularly in operational settings including real-world deployments and combat, but it also has created “the severe challenge of ‘peacetime intoxication,’” in which PLA units have developed bad habits and practices.²⁸ The combination of limited experience and bad habits has presented obstacles in the development of PLA combat training, prompting warnings that “negligence of war inevitably leads to danger and slackening in preparing for war inevitably results in defeat.”²⁹ Another PLA commentary summed up the problem as a gradual, corrosive process that “over time, some officers and enlisted personnel are prone to ‘peace sickness’ and prepare for war with a nonwar mentality” that results in “training and preparation work” that is “naturally sloppy and unrealistic.”³⁰

²⁵ Central Military Commission Political Work Department, “Steadfastly Safeguard the Core of Party, Resolutely Obey the Party’s Commands,” *PLA Daily*, February 4, 2017.

²⁶ Cheng Ronggui, 2020.

²⁷ Cheng Ronggui, 2020.

²⁸ Li Yongfei, “Sharpening the Blade of the Long Sword of a Major Power—The Story of the Rocket Force’s Efforts in Eradicating Bad Habits of Peacetime and Training Winning Capabilities in a New Era,” *PLA Daily*, July 18, 2018.

²⁹ Li Yongfei, 2018.

³⁰ Liu Jianwei, 2019.

PLA slogans and themes provide a broad overview of the problems that Xi stated that he thinks about most. The themes have persisted over time—in some cases close to a decade and more. In all cases, the slogans represent problems that the PLA and its leadership have been directed to fix. The message about the dangers of these problems has been reinforced on hundreds of occasions, and the content of these themes has factored into the many attempts in recent years to reform the PLA and improve its practices.

Reforms, Official Reports, and Directives

Self-assessments are also delivered via both direct and indirect methods with the reforms, official reports, and directives focused on the PLA. In many cases, the promulgation of these forms of guidance appears to be neutral statements and directives for the PLA to implement new programs and change in key areas. The PLA reforms announced at the end of 2015 were the largest of their kind in the post-Cold War era and highlighted a number of areas in which PRC leaders thought that the PLA needed to reform to meet the demands of modern warfare. Previous sections have outlined many of these key themes, which include joint operations, multidirectional and multidimensional readiness, mobilization, logistics and support, planning, strategic management, political work, and reliability.³¹ These same themes have since been reinforced in speeches by Xi to various military units and to the National People's Congress.³² Broadly speaking, the need for such massive reforms in these areas and for follow-on campaigns to reinforce and popularize these messages among the PLA's leaders and grassroots demonstrates a recognition of significant problems that need to be addressed before the PLA can achieve its long-term modernization objectives.

Long-term problems, such as training, talent development, joint operations, mobilization, and political work, are all areas that have received updated guidance and new regulations within recent years. The new OMTE published in 2018 was the third such guideline since 2002 and attempted to tackle many problems that earlier versions had addressed—relevance, real-

³¹ State Council Information Office, 2015.

³² "Full Text of Xi Jinping's Report at 19th CPC National Congress," 2017.

ism, quality, standardization, and evaluation among them.³³ PLA joint operations regulations have been updated less frequently. The predecessor to the 2020 joint operations regulation was published in 1999, but in the interim a significant amount of the PLA's internal discussion was focused on improving joint capabilities and correcting long-standing shortfalls that military science research projects and experimentation had failed to address.³⁴ Similar guidance in the areas of talent development, mobilization, and political work have all faced repeated snags or problems in implementing the new laws and regulations.³⁵

PLA programs in each of these areas, along with additional emphasis on leadership guidance and training programs, indicate serious attempts to rectify these problems. Improvements in training have been noted by many PLA observers, and senior leaders' speeches, including Xi's, recognize and applaud the PLA's progress. However, repeated attempts to implement new programs, updated regulations, and continued debates about what the PLA needs to do to meet its modernization goals all demonstrate that PLA leaders continue to have a wide array of concerns about the PLA's progress and readiness.

³³ "Study and Implement the New Outline, Promote the Scientific Development of Training," *Qianjin Bao*, August 31, 2008; Liang Pengfei, Liu Yiwei, and Wu Xu, "Strive to Embark upon a New State of Military Training for a New Era—An Exclusive Interview with a Leader of the Central Military Commission (CMC) Training and Administration Department on the State of Promulgation of the New Outline of Military Training," *PLA Daily*, February 1, 2018; Yang Guang, Yang Huicheng, and Su Ruozhou, "Conscientiously Implement Military Training Regulations, Industiously Open Up a New Phase in Governing Training in Accordance with the Law—Fu Quanyou Answers Reporters' Questions on Issues Related to the PLA Military Training Regulations," *PLA Daily*, September 13, 2002.

³⁴ Qiao Nannan, 2020.

³⁵ Liu Zhihui, Zhu Tingchun, and Liu Xingxing, 2016; Zhang Jie, *On the Discovery of Military Talents*, Beijing: Military Science Press, 2016; Zhang Jie, *On the Training of Military Talent*, Beijing: Military Science Press, 2019; Xu Kui and Mo Shiyang, 2021.

How the PRC Views the Adversary

The PLA's view of itself is one piece in its overall assessment of the military balance. Such areas as political work may at first appear to address PLA-centric problems, but they do get to broader issues of concern, such as fighting spirit, motivation and "work style." Other areas in which the PLA evaluates itself provide an implied comparison, since much of the PLA's concept of what constitutes a world-class military is based on its observations and analysis of U.S. military operations over the past three decades. Frequently, PLA commentaries will make explicit comparisons, either to "modern militaries" or to the "strong enemy." These comparisons often highlight continued problems with the PLA's progress in such areas as training, experience, and informatization.

PLA analysis has recently examined a number of areas that provide insight into how analysts view the adversary. Foundational texts on theater joint command and systems warfare have examined U.S. concepts and experiences and made direct general comparisons between the PLA and its American counterparts. A considerable body of work has built up in PLA technical journals about the PLA's views of the "strong enemy," as well as its views of Taiwan's combat capabilities—most notably those capabilities vital to combat on the island. In each area, PLA studies and analysis build on several themes highlighted by Xi's concerns and broader, systemic assessments within the PLA.

Confronting the "Strong Enemy" and Other "Modern Militaries"

PLA researchers have compiled an extensive library of studies detailing lessons learned from recent conflicts and foreign operational concepts. These studies have been foundational in later research on the PLA's emerging operational concepts and served as a basis for how the PLA thinks about modern warfare. These studies generally do not explicitly make direct comparisons between the PLA's and United States' capabilities; however, they frequently will detail key features and requirements for future warfare and examine where the PLA fits on the capability spectrum. In a similar manner to PLA slogans and themes, these studies typically use recent American military

operations as the standard for many of the most significant warfare trends in recent decades, including informatization, systems warfare, joint operations, and noncontact warfare. Although there does not appear to be a functioning net assessment process in the PLA at this time, these comparisons do find their way into both military science publications and official PLA press.³⁶ The former are mainly focused on concept development, PME, and new operational concepts. The latter are used to outline and reinforce leadership priorities, highlight major themes, and message the PLA on recent progress and areas still needing improvement.³⁷

Beginning in 2015 and shortly thereafter, the PLA published a number of foundational texts on issues that had been priorities over the decade and a half before their publication but that took on new importance with the major reforms announced at the end of 2015. These texts included publications on joint theater command, systems warfare, new operational concepts, and wartime political work.³⁸ Other works published around this time detailed joint operations tactics (2014) and analytical methods for assessing effectiveness in systems warfare (2018).³⁹ Each of these texts made limited but direct comparisons to the U.S. military and provide indications of how the PLA assesses its “strong enemy.”

PLA strategists have long emphasized asymmetric strategies, initiative, and fighting based on the PLA's actual condition and requirements as a means for countering a technologically superior adversary. The PLA author of one major study on systems warfare noted these requirements after pointing out that the PLA still lagged behind the United States in “early warning and reconnaissance systems, long-distance accurate strike capabilities, air

³⁶ Li Xuanliang and Wang Yitao, 2016; “When Inspecting the PLA National Defense University, Xi Jinping Stresses the Need to Focus on Achieving the Goal of Strengthening the Military Forces, Push Forward Reform and Innovation at Military Academies, and Provide Talented Personnel and Intellectual Support for the Achievement of the Chinese Dream and the Dream of Strengthening the Military Forces,” Xinhua, March 23, 2016.

³⁷ Cao Zhi, Luan Jianqiang, and Li Yiliang, 2015.

³⁸ Liu Zhihui, Zhu Tingchun, and Liu Xingxing, 2016; Liu Wei, 2016; Dong Lianshan, 2015; Qian Weichao and Yi Xiaoming, 2015; Wang Yongnan, 2015.

³⁹ Tan Song and Mu Yongpeng, 2014; Wang Shumin, *The Operations Analysis of System-of-Systems Combat*, Beijing: Military Science Press, 2018.

and sea operational capabilities, real-time or near-real-time command and control capabilities.”⁴⁰ He also assessed that the PLA’s ability to “wage systems warfare is still inferior to our strong enemy’s.”⁴¹ The author—one of the PLA’s major authorities on systems warfare and a key contributor to several authoritative PLA texts—provided these observations as a precursor to a larger examination of the American military’s operational system, including its structures, potential vulnerabilities, and general strategies for defeating it. Accordingly, this assessment should not be viewed as a statement on will, intent, or future projections. Rather, it was an assessment of what this author viewed as the objective condition confronting the PLA as it pursues the capabilities required for systems warfare.

Similarly, the United States is still viewed as having a significant advantage in the maturity of its level of informatization and joint operations capabilities. Pointing out that recent American operations have involved precision strikes on enemy C2 facilities, the author of the PLA’s first major study of theater joint command warned that because of the “various high-tech weapons and equipment” available to the “strong enemy,” it will be able to put PLA theater command organizations at great risk.⁴² The issue of joint theater command has also progressed significantly in the West, to the degree that the author argues that Western nations “may be said to be pioneers” in the areas of organization, command, and military deployment.⁴³ In terms of informatization, another study concludes that the U.S. level of informatization is “the most advanced in the world” and that U.S. military technology is therefore able to “interface with the various services’ and arms’ electronic information systems and, based on requirements, can process, store, distribute, and manage/control various kinds of information in a timely, accurate manner.”⁴⁴

Finally, despite the PLA’s efforts over the past two decades to develop realistic opposition forces for training, several indicators suggest that this

⁴⁰ Wang Yongnan, 2015, p. 71.

⁴¹ Wang Yongnan, 2015, p. 71.

⁴² Liu Wei, 2016, p. 85.

⁴³ Liu Wei, 2016, p. 352.

⁴⁴ Dong Lianshan, 2015, pp. 69–70.

effort has been limited by knowledge of the “strong enemy’s” actual tactics, techniques, and procedures. This deficit is critical for developing both realistic combat training based on the threat PLA forces likely will face and new PLA CONOPs and combat methods in the absence of practical experience. The author of *Theater Joint Operations Command* argued, in light of Western military experience with joint operations, that the PLA “should go toward them, understand them, and learn from them” and, in some cases, should directly apply Western techniques and theories.⁴⁵ He also offered a note of caution that, in limiting foreigners’ insight into its practices and insisting on approaches with Chinese characteristics, the PLA might “close ourselves off and remain stuck in the past”—a problem that will “become a major obstacle to the innovation process of theater joint command.”⁴⁶

Commentaries and articles in official PLA press have argued that commanders at all levels should become “experts about the Blue force,” and exercise areas should become part of a “‘know the enemy’ battlefield” in which training reflects the notional enemy and battlefield situation as realistically as possible.⁴⁷ Other commentaries tied the requirements for effective joint training to improved use of opposition forces (i.e., “Blue forces” in PLA terminology) to better reflect the dynamic, ad hoc force groupings that PLA units are likely to confront in war.⁴⁸ These “Blue forces” should reflect the “main operational styles that China’s military may face in the future”—a process that does not appear to be happening on the scale needed, according to several PLA observers.⁴⁹ The PLA’s most recent training mobilization

⁴⁵ Liu Wei, 2016, p. 351.

⁴⁶ Liu Wei, 2016, p. 353.

⁴⁷ Wang Xueping, 2019.

⁴⁸ Chen Jun and Hou Jun, “Continuous Improvement of Joint Operations Experimental Capabilities,” *PLA Daily*, April 9, 2019.

⁴⁹ Liu Guojun and Tan Heyi, “Hone Crack Troops and Strong Forces in Complex Electromagnetic Environments,” *PLA Daily*, January 9, 2018; Fan Jianghuai and Lei Bin, “Joint Operations: From ‘Joint Forms’ to ‘Combined Spirit’—Interviews on the Building of a Strong Military Culture at a Certain Navy Joint Training Base,” *PLA Daily*, April 29, 2021; Wang Xueping, 2019; Qing Sheng, Zhao Yonggu, and Yin Jianyu, 2020; Hong Jingtao, “Locate the Breakthrough for Basic Training Innovation,” *PLA Daily Online*, March 30, 2021.

order highlighted the need to invigorate joint, system-of-systems-oriented training, and the most effective means for accomplishing this task was identified as testing “Red force” units by building “an excellent ‘Blue force’ of joint operational training” and reorienting joint force training to emphasize the dynamics of a highly integrated battlefield using systems warfare concepts.⁵⁰

These recent PLA discussions demonstrate that success in systems warfare requires an in-depth knowledge of the adversary. The repeated calls for improved opposition-force training indicate that earlier PLA attempts to build “Blue force” units have not been successful in approximating, let alone replicating, the enemy force. According to several key texts and more-recent treatment in PLA official press, the PLA has continued to lag behind the United States in several key areas, despite its massive modernization program. Notably, most of these sources suggest that PLA confidence in technology and operational know-how are both major concerns. Accordingly, PLA attempts to understand new U.S. CONOPs also highlight important perspectives on how the PLA views the military balance.

PLA Views of New U.S. Concepts of Operation

PLA authors appear to have arrived at a common conclusion that all emerging U.S. warfighting concepts are expressions of the same core concept: distributed lethality. PLA scholars also appeared to agree that current U.S. concepts are being driven by Chinese A2/AD technology. When discussing these topics, the authors choose to focus on emerging technological capabilities, such as machine learning/artificial intelligence (ML/AI), unmanned aircraft systems (UASs), and cloud-based command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) capable of intelligence fusion.⁵¹ When authors did examine U.S. opera-

⁵⁰ Liu Haitao, “Joint Training for Joint Combat to Enhance Joint Operational Capabilities—Following Supreme Commander’s Order to Comprehensively Enhance Combat-Realistic Level of Training, Ability to Fight, Win (Part Two),” *PLA Daily*, January 13, 2021.

⁵¹ Yuan Guiping and Zhang Shaofang, “Penetrating Counter Air Concept of USAF and Its Missile Weapon Development,” *Tactical Missile Technology*, No. 1, 2018, p. 41; Zhang Jing, Xiao Jiang, and Wang Ningwu, “USAF Combat Cloud Concept Under the Perspective of Intelligence Fusion,” *Journal of Intelligence*, Vol. 36, No. 11, November 2017, p. 2;

tional thinking, it was through the lenses of cross-domain or integrated operations.⁵²

Countering A2/AD Through Distribution

The authors, regardless of affiliation, journal, or publication date, concluded that U.S. operational trends center on defeating the PLA's A2/AD capabilities through distribution of forces and capabilities.⁵³ Most authors also noted that, while disaggregation is a reaction to A2/AD, the trend predates the emergence of PLA long-range precision fires. PLA scholars argue that the United States' trend toward distribution started with the development of Net-Centric Operations in the 1990s. Thus, penetrating counterair (PCA), multidomain operations (MDO), distributed maritime operations (DMO), expeditionary advanced basing operations (EABO), etc., are all the conceptual successors to Net-Centric Operations.⁵⁴ The PLA authors pointed to several U.S. sources as evidence of U.S. intentions to counter PLA A2/AD technology. In works published before 2018,⁵⁵ authors cited two works pub-

Liu Peng, "On the Characteristics and Problems of the U.S. Military's 'Air-Sea Battle Concept,'" *Modern International Relations*, September 2010, p. 22.

⁵² Liu Peng, 2010.

⁵³ Yuan Guiping and Zhang Shaofang, 2018, pp. 37–38; Liu Shuyi and Li Bo, "An Analysis of the Concept of 'Multi-Domain Battle of the U.S. Army,'" *Defense Technology Review*, Vol. 39, No. 6, December 2018, p. 108.

⁵⁴ Zhang Jing, Xiao Jiang, Wang Ningwu, 2017, pp. 1–7; Li Jinjun and Zhen Zhansheng, "Research on Distributed Cooperative Operation of Surface Ships Based on Information System," *Military Operations Research and System Engineering*, March 2015; Huang Junsong, "Distributed Lethality Is an Important Factor in the Development of Maritime Warfare," *Science and Technology Review*, Vol. 36, No. 4, April 2018, p. 63; Hu Bo, "U.S. Military Maritime Strategic Transformation: 'From Sea to Land' to 'Return to Sea Control,'" *National Security Research*, March 2018; Han Yi and Chu Xin, "Divide Troops and Set Fire, Fight on All Ships—Analysis of the U.S. Military 'Distributed Lethality' Concept," *Defense Technology Review*, May 2018; Yi Liang and Lu Yang, "United States Navy Equipment Technology for 'Distributed Lethality' Concept," *Journal of Naval University of Engineering*, February 2018, p. 1.

⁵⁵ This may indicate influence by Liu Peng, 2010, which has been downloaded from the Chinese journals database CNKI 1,042 times and cited 17 times at the time of writing this report. For context, most articles returned during our searches were downloaded fewer than 100 times and were uncited.

lished by the Center for Strategic and Budgetary Assessments⁵⁶ and another by the RAND Corporation.⁵⁷ Articles published after 2018 pointed to the U.S. 2018 National Defense Strategy or the “Pivot to Asia” as evidence that U.S. intentions remain unchanged.⁵⁸ Additionally, some authors quoted speeches by Air Force Chief of Staff Gen David L. Goldfein as supporting evidence.⁵⁹ Russia was referenced in two articles, though the authors maintained that the primary focus was the PRC.

While there was apparent agreement over U.S. intentions toward China, there was also disagreement over U.S. motivations. One author argued that the United States is shoring up its weakened Asian-Pacific position after being “trapped in the mire” of Afghanistan and Iraq.⁶⁰ Other authors interpreted U.S. actions as proof of the effectiveness of the PLA’s new standoff weapons in undermining the United States’ ability to enforce air and sea control.⁶¹ Hu Jie Min, Guo Meishu, and Yang Bin’s article “An Analysis of

⁵⁶ Andrew F. Krepinevich, Jr., *Why Air-Sea Battle?* Washington, D.C.: Center for Strategic and Budgetary Assessments, 2010; Jan von Tol, Mark Gunzinger, Andrew Krepinevich, and Jim Thomas, *AirSea Battle: A Point-of-Departure Operational Concept*, Washington, D.C.: Center for Strategic and Budgetary Assessments, 2010.

⁵⁷ Roger Cliff, Mark Burles, Michael S. Chase, Derek Eaton, and Kevin L. Pollpeter, *Entering the Dragon’s Lair: Chinese Antiaccess Strategies and Their Implications for the United States*, Santa Monica, Calif.: RAND Corporation, MG-524-AF, 2007.

⁵⁸ Zhao Zhangqing, “Return to the Era of Great Power Competition and Look at the New Development Trend of the U.S. Air Force from the 2018 Annual Meeting of the U.S. Air Force Association,” *Aviation World*, October 2018, p. 12; Liu Peng, 2010, p. 23; Yuan Guiping and Zhang Shaofang, 2018, pp. 37–38.

⁵⁹ Zhao Zhangqing, 2018, pp. 12–13.

⁶⁰ Xia Yuxuan, Huang Gaoming, and Li Tiebing, “Evolution and Development of Air-Sea Battle,” *Journal of Naval University of Engineering*, Vol. 13, No. 1, June 2016, p. 57.

⁶¹ Yuan Guiping and Zhang Shaofang, 2018, pp. 37–38; Ren Yaguan, “Evolution of Air-Sea Battle Concept,” *Avionics Technology*, Vol. 47, No. 2, June 2016, p. 2; Xia Yuxuan, Huang Gaoming, and Li Tiebing, 2016, p. 57.

'Air-Sea Battle'”⁶² argues that the United States' China focus is a symptom of continued Cold War thinking.⁶³

The aviation-centric articles reviewed indicate that PLA scholars are preoccupied with the U.S. Air Force's man-machine partnering programs, such as Loyal Wingman.⁶⁴ The articles argued that future U.S. aviation will be a combination of swarming small UASs (SUASs) to suppress enemy air defense and collect ISR data while exquisite systems, such as the F-35, are paired with UASs to fulfill strike and C2 missions.⁶⁵

PLA writing on evolving U.S. Army doctrines represented the smallest collection of articles. Why this should be is not immediately clear. Most of the time, when MDO was discussed, it was in the context of the USAF's role. Articles analyzing MDO described it as a mission-oriented command concept that relies on centralized planning and decentralized execution.⁶⁶ The authors argued that the United States believes that such a flat organization structure is possible because artificial intelligence (AI) enabled information networks to enable long-range precision fires (LRPF)-equipped field units to concentrate fires organically.⁶⁷

PLA naval scholars did not regularly use U.S. names for Navy and Marine Corps operational concepts. Instead, PLA scholars argued that U.S. maritime forces were investing in “distributed lethality.” According to the sources reviewed, the U.S. maritime solution to PLA A2/AD technology is to increase naval surface force survivability and responsiveness through dispersing firepower across more platforms and geographically disaggregating the surface fleet. Authors noted that so doing decreases the probability of suffering a catastrophic loss and forces the PLA to expend ISR resources to

⁶² This article has been cited 14 times and downloaded 720 times, an indication of its widespread dissemination within the PLA.

⁶³ Hu Jie Min, Guo Meishu, and Yang Bin, “An Analysis of ‘Air-Sea Battle,’” *National Defense Technology*, February 2011, p. 50.

⁶⁴ Zhang Xueming and Zhang Shuqi, “A Study on the New SUAS Roadmap of USAF,” *National Defense Science and Technology*, Vol. 37, No. 4, August 2016, pp. 81–84.

⁶⁵ Zhang Jing, Xiao Jiang, and Wang Ningwu, 2017, pp. 1–7.

⁶⁶ Liu Shuyi and Li Bo, 2018, pp. 108–112.

⁶⁷ Liu Shuyi and Li Bo, 2018, pp. 108–112.

sift through an aqueous haystack.⁶⁸ As noted in several articles, distributed lethality's reliance on winning the detection competition also increases the emphasis on effective EW and ISR platforms.⁶⁹

Machine Learning and Artificial Intelligence UASs

Authors appeared to accept that drones are an integral part of future warfare. There appeared to be wide agreement that the United States plans to use unmanned systems to provide ISR, suppression of enemy air defenses, and communication node capabilities.

Several articles expressed concerns over the pairing of SUASs with hive-behavior algorithms and wireless/internet protocol-based networks to create drone swarms.⁷⁰ The authors were most concerned that swarming SUASs can effectively suppress PLA integrated air defense systems (IADS), allowing the United States to assert air control.⁷¹ Authors theorized that a swarm-enabled combination of the High-Speed Anti-Radiation Missile and Joint Stand-off Weapon missiles with the Miniature Air-Launched Decoy could overcome even the most advanced PLA IADS.⁷² The article reviewed also viewed the Loyal Wingman program as a serious threat. The authors argued that equipping a stealth aircraft with AI/ML-capable drones increases the aircraft's effective sensor and strike ranges while minimizing the probability the manned aircraft will be detected. Such a system would increase the combat effectiveness of the manned system exponentially when compared with non-drone-paired PLA systems.⁷³

More generally, PLA scholars expressed that the combination of low cost, survivability, and operational flexibility will make SUASs important battlefield enablers when paired with high-performance platforms, such as the F-35.

⁶⁸ Han Yi and Chu Xin, 2018; Yi Liang and Lu Yang, 2018, p. 1; Hu Bo, 2018.

⁶⁹ Chen Hebin and Mao Xiaohei, "U.S. Navy Transforms from 'Centralized Lethality' to 'Distributed Lethality,'" *Aviation World*, December 2016, p. 1; Han Yi and Chu Xin, 2018; Hu Bo, 2018.

⁷⁰ Zhang Xueming and Zhang Shuqi, 2016, p. 84.

⁷¹ Zhang Xueming and Zhang Shuqi, 2016, p. 82.

⁷² Yuan Guiping and Zhang Shaofang, 2018, pp. 37–41.

⁷³ Zhang Xueming and Zhang Shuqi, 2016, pp. 81–84.

The PLA naval scholars expressed special interest in the U.S. MQ-4C Triton and MQ-8C Fire Scout drones, as well as the Tactically Exploited Reconnaissance Node.⁷⁴ There appears to be agreement that drones can increase the survivability of a force's ISR net through disaggregation in the same way as a distributed fleet. Other systems that were often mentioned included Low-Cost Unmanned Aerial Vehicle (UAV) Swarming Technology, Loyal Wingman, Large Displacement Unmanned Underwater Vehicle, Extra Large Unmanned Undersea Vehicle, and the Gremlin.⁷⁵

Cloud-Based C4ISR and Intelligence Fusion

The authors readily acknowledged that the integrated man-machine combat system described above presents a complex set of C4ISR problems. The authors universally identified the USAF's currently under-development, cloud-based C4ISR framework as the U.S. solution. Author Zhao Zhangqing put it this way:

It is not difficult to see from the above data that this military expansion has three key points: first, to enhance situational awareness and command and control capabilities; second, to enhance long-range strike and maneuverability; and third, to enhance support and support capabilities. . . . The above is to re-upgrade and strengthen the U.S. Air Force's "global alert, global reach, global strike" construction concept.⁷⁶

The authors described USAF's solution as cloud-based and network-focused, linking "capability clusters" within the operational system seamlessly, thereby increasing the C4ISR net's resilience during operations.⁷⁷ PLA authors seem to believe the system will feature the ability to fuse disparate

⁷⁴ Li Jinlan, Hu Song, Liu Jia, and Zhang Chan, "Analysis of the Development of Key Weapon Projects Driven by the U.S. Navy's Distributed Lethality Operations Concept," *Aerodynamic Missile Journal*, November 2018; Hu Bo, 2018.

⁷⁵ Tan Shengling, Shi Songwei, Zhang Yao, and Zhou Liang, "Review on the Development of Intelligence-Based Distributed Cooperative Operational System," *Air and Space Defense*, January 2019.

⁷⁶ Zhao Zhangqing, 2018, pp. 19–20.

⁷⁷ Yuan Guiping and Zhang Shaofang, 2018, p. 40.

types of ISR data into actionable intelligence rapidly. The fused intelligence is then freely disseminated to all platforms within the operational system,⁷⁸ as explained in Zhang Jing, Xiao Jiang, and Wang Ningwu's paper "USAF Combat Cloud Concept Under the Perspective of Intelligence Fusion":

[The] "operational cloud" concept needs to build an intelligence-based fusion combat system to give full play to the support role of intelligence work in integrated operations. To realize the full value of intelligence it must generate relevant information and reliable and comprehensive all-source intelligence products through the fusion of multi-source intelligence; build a flexible and scalable command and control system according to changes in intelligence fusion; improve mission planning, innovate and develop weapon platforms; and ensure the practical use of all-source intelligence.⁷⁹

The authors also argued that this system requires local decisionmaking to increase responsiveness.⁸⁰ The sample authors did not describe in detail how they believed the USAF's cloud-based system would achieve real-time data fusion. Zhang, Xiao, and Wang hinted that the system would be automatic, with possible oversight from intelligence personnel.⁸¹

The sample articles did not see the development of cloud technology as solely a USAF effort. Liu Shuyi and Li Bo note in their article that information sharing and synthesis between services is a core requirement for MDO.⁸² Zhang, Xiao, and Wang noted that the U.S. Army's Land Warfare Network, the U.S. Marine Corps' (USMC's) Expeditionary Forward Bases, and the U.S. Navy's (USN's) Navy Integrated Fire Control-Counter Air (NIFC-CA) system are expressions of the same trend.⁸³ These authors

⁷⁸ Zhang Xueming and Zhang Shuqi, 2016, pp. 82–83.

⁷⁹ Zhang Jing, Xiao Jiang, and Wang Ningwu, 2017, p. 3.

⁸⁰ Explicitly referred to as the *OODA-Loop* in two of the articles.

⁸¹ Zhang Jing, Xiao Jiang, and Wang Ningwu, 2017, p. 3.

⁸² Liu Shuyi and Li Bo, 2018, p. 109.

⁸³ Zhang Jing, Xiao Jiang, and Wang Ningwu, 2017, pp. 2–3; Hu Bo, 2018; Zhao Hongyan, "Research on the Concept Development of the United States Missile Cooperative Operations for Future War," *Aero Weaponry*, Vol. 26, No. 4, September 2019, p. 5; Liu

also noted that by integrating Navy and Air Force ISR assets through NIFC-CA, surface combatants can more easily detect ultra-low-flying kill vehicles.⁸⁴ The F-35's advanced sensor suite and improving integration into the Navy's ISR net are also believed to be key to achieving the next generation C4ISR system. Other systems that Chinese scholars believe are important include the Cross-Domain Maritime Surveillance and Targeting, System of Systems Integration Technology and Experimentation, and others.⁸⁵

Almost all the articles reviewed discussed U.S. military technology to some degree. In broad terms, there appears to a general agreement that distributed lethality is dependent on the ability of all ships within the force to sense, communicate, and cooperate in support of each other. Consequently, these writers argue that a distributed force is data- and AI-dependent. As one author put it, "distributed lethality is inseparable from big data and AI."⁸⁶ PLA scholars also appear to think that the distributed lethality data enterprise will require ISR inputs from tactical, operational, and strategic assets.⁸⁷ This, they believe, will lead to "a large force [ISR and other combat enablers] in support of a small force [the distributed unit]."⁸⁸

Given the preceding, it seems likely that the PLA has concluded that the United States believes "networked-ized" and "intelligence-ized" operational systems are the future of warfare.⁸⁹ If so, this supports the argument that the PLA sees the world as moving toward ML/AI-assisted operational decisionmaking.

Weiguo, Liu Xiaoming, and Wang Yiling, "Analysis on the Development of American Naval Integrated Fire Control-Counter Air System," *Tactical Missile Technology*, February 2017, p. 1.

⁸⁴ Yi Liang and Lu Yang, 2018, p. 5.

⁸⁵ Tan Shengling et al., 2019.

⁸⁶ Huang Junsong, 2018, p. 63.

⁸⁷ Huang Junsong, 2018, p. 66.

⁸⁸ Huang Junsong, 2018, p. 66.

⁸⁹ Zhang Jing, Xiao Jiang, and Wang Ningwu, 2017, pp. 2–3.

Cross-Domain and Integrated Operations

The sample writers consistently described emerging U.S. operational trends as being cross-domain and integrated.⁹⁰ PLA authors argued that the U.S. military has striven for joint operations since the development of Air-Land Battle and Net-Centric Warfare but has largely been unsuccessful because of divergent interests among the different services.⁹¹ However, new concepts such as MDO, air-sea battle (ASB), PCA, DMO, and EABO are starting to overcome service rivalries and move the United States toward truly integrated concepts.⁹² PLA authors viewed the Joint Concept for Access and Maneuver in the Global Commons as the trend's greatest indicator, which they believed was a de facto expansion of ASB to include all other services.⁹³ In particular, the authors pointed to Chief of Staff of the USAF General David Goldfein's remarks at the 2018 Air Force Association Warfare Symposium as an indication that the USAF is actively seeking to break down service rivalries and foster cross-domain capabilities.⁹⁴

The sample authors appeared to differentiate between "joint operations" and "integrated operations." In PLA thinking, integrated or cross-domain operations are a kind of "next step" beyond joint operations. PLA authors described the integrated framework as a battlespace in which all forces are linked by a single C4ISR network and operate and coordinate freely with limited guidance from a higher headquarters.⁹⁵ Forces supplied by each service are optimized to harmonize with and complement each other instead of maximizing individual performance. Sample authors argued that this decreases individual platform costs and capabilities but increases the operational system's capability via synergy.⁹⁶ Authors Liu Shuyi and Li Bo went as far as to argue that in the future, U.S. cross-domain operations will lead to

⁹⁰ Hu Jie Min, Guo Meishu, and Yang Bin, 2011, p. 50.

⁹¹ Xia Yuxuan, Huang Gaoming, and Li Tiebing, 2016, p. 58; Zhang Jing, Xiao Jiang, and Wang Ningwu, 2017, pp. 2–3.

⁹² Xia Yuxuan, Huang Gaoming, and Li Tiebing, 2016, p. 58.

⁹³ Hu Jie Min, Guo Meishu, and Yang Bin, 2011, p. 50; Ren Yaguan, 2016, p. 3.

⁹⁴ Zhao Zhangqing, 2018, pp. 10–21.

⁹⁵ Zhao Zhangqing, 2018, pp. 10–21; Liu Shuyi and Li Bo, 2018, pp. 109–110.

⁹⁶ Zhang Jing, Xiao Jiang, and Wang Ningwu, 2017, pp. 2, 4.

a synthesis of all combat domains⁹⁷ into a new single domain, which is not exclusively military.⁹⁸

Capability and Capacity

While only a minority of the articles discussed the degree to which the United States can carry out distributed lethality, that discussion was especially rich. Assessments varied, but the common theme was to assess U.S. capabilities based on key technological advancements in C4ISR platforms and systems, unmanned systems, EW systems, multimission munitions, and specific classes of surface ships. There was also limited discussion of the strengths and weakness of distributed operations.

The authors appeared to agree that distributed operations' main strength was also its main feature: disaggregation to increase survivability and responsiveness. As already stated, there appears to be universal agreement that unless the PLA adapts, distributed operations will create an unmanageable targeting problem. PLA writers expressed that this complicated targeting picture will also affect leadership decisionmaking.⁹⁹ As the PLA ISR and C2 systems struggle to identify and track the disaggregated force, PLA leaders will struggle to comprehend the battlespace's true state, slowing their decisionmaking and leading to nonoptimal solutions.¹⁰⁰ Within this complex decisionmaking environment, some PLA commanders may even hesitate to act out of a fear of being detected by the U.S. distributed ISR net, then surrounded and destroyed by the disaggregated strike force.¹⁰¹

PLA authors also expressed that distributed operational systems are likely to improve intelligence gathering, fusion, and quality while decreasing data loss during transmission.¹⁰² The authors explained that these ISR gathering and fusion systems would be more scalable, flexible, and surviv-

⁹⁷ Including the civilian domain.

⁹⁸ Liu Shuyi and Li Bo, 2018, p. 109.

⁹⁹ Li Jinlan et al., 2018.

¹⁰⁰ Yi Liang and Lu Yang, 2018, p. 1.

¹⁰¹ Huang Junsong, 2018, p. 64.

¹⁰² Zhang Jing, Xiao Jiang, and Wang Ningwu, 2017, p. 4.

able than current ISR paradigms.¹⁰³ Authors also thought that this new system might overcome intelligence stovepiping caused by entrenched service cultures.¹⁰⁴ It is important to remember that the authors expressed that rapid intelligence gathering, fusion, and dissemination are the central features of future warfare. Therefore, if the United States can implement such a system, it will have a significant advantage over its enemies.¹⁰⁵

PLA scholars also associated organizational benefits with distributed operations. Some scholars felt that distributed operations allow for the rapid and effective creation of joint operations between air, land, and sea components.¹⁰⁶ The authors argued that ground, air, and sea commanders will need less top-down direction as network-ization decreases the intraservice barriers to free flow of information during combat. Combat forces will then be more capable of ingesting battlefield information and coordinating a response among themselves than a geographically separated higher headquarters.¹⁰⁷ This argument seems to either ignore the negative operational impacts of ad hoc forces¹⁰⁸ or assume that improvements in AI/ML-assisted C2 networks will negate these effects. Some scholars are not in full agreement with that argument. Tan et al. point out in their article “Review on the Development of Intelligence-Based Distributed Cooperative Operational System” that the United States has not sufficiently researched or practiced coordinated operations under the USN’s distributed lethality concept, lacking even a basic decisionmaking architecture. Tan et al. argue that without such a coordination system, distributed operations are fundamentally impossible.¹⁰⁹

While there appears to be a belief that distributed operations is in keeping with the development of military technology, that does not mean it is

¹⁰³ Zhang Jing, Xiao Jiang, and Wang Ningwu, 2017, pp. 4–5.

¹⁰⁴ Zhang Jing, Xiao Jiang, and Wang Ningwu, 2017, p. 5.

¹⁰⁵ Xia Yuxuan, Huang Gaoming, and Li Tiebing, 2016, p. 57.

¹⁰⁶ Chen Hebin and Mao Xiaohei, 2016, p. 3.

¹⁰⁷ Chen Hebin and Mao Xiaohei, 2016, p. 3.

¹⁰⁸ See Chapter 3 of Wayne P. Hughes and Robert Girrier, *Fleet Tactics and Naval Operations*, 3rd ed., Annapolis, Md.: Naval Institute Press, 2018.

¹⁰⁹ Tan Shengling et al., 2019.

without its critiques. Some authors appear to believe that the emerging operational concepts would either be undermined by security requirements or be at great threat from possible information leaks. Zhang, Xiao, and Wang described the situation thus:

The open network platform blurs the security boundaries of traditional intelligence work and poses multiple security threats to the “operational cloud” system. First, the “operational cloud” exposes originally internal network resources to the public network. Since malicious attackers may also access the network through the public network, the possibility of malicious attacks is increased, making the overall security of the network less safe as compared with the closed network, where the risk is greatly reduced.¹¹⁰

The articles also noted the potential for internal threats. For example, Zhang, Xiao, and Wang warned that different intelligence groups operating at different classification levels on the same network increase the likelihood of spillage or unauthorized access by an insider threat.¹¹¹

The sample authors also pointed out some contextual issues that will likely slow down or block the successful implantation of emerging concepts. The first of these are U.S. government deficits. The PLA scholars argued that these deficits might limit U.S. military funding for the foreseeable future, delaying the development of critical communication and weapon systems.¹¹² The second issue is service rivalries and vested interests, which the authors argued have hindered and will hinder concepts requiring joint or integrated operations.¹¹³ Finally, author Liu Peng expressed his belief that the concentration of a low number of U.S. logistics hubs in East Asia and time required to line-haul goods from the United States fundamentally undermine concepts such as ASB.¹¹⁴

¹¹⁰ Zhang Jing, Xiao Jiang, and Wang Ningwu, 2017, p. 6.

¹¹¹ Zhang Jing, Xiao Jiang, and Wang Ningwu, 2017, p. 5.

¹¹² Liu Peng, 2010, p. 24.

¹¹³ Zhao Zhangqing, 2018, pp. 10–21; Liu Peng, 2010, p. 25.

¹¹⁴ Liu Peng, 2010, pp. 25–26.

Among the PLA naval articles, a common criticism of the Navy's distributed lethality concept is that it is still being developed as a concept and requires further clarification before it can be implemented.¹¹⁵ PLA authors stated that while some of distributed lethality's tactical concepts have been demonstrated with exercises, such as firing a High-Mobility Artillery Rocket System from the deck of a ship, the broader operational concepts have yet to be shown.¹¹⁶ Authors often pointed to the United States' lack of analyses of distributed lethality's reliance on intelligent systems as a clear indicator that the concept remains immature.¹¹⁷ Along the same lines, authors criticized distributed lethality for not giving enough credence to joint warfare capabilities and overly focusing on surface combatants.¹¹⁸ As Chen Hebin and Mao Xiaohei assert in their article "U.S. Navy Transforms from 'Centralized Lethality' to 'Distributed Lethality,'" for any given ship, all things being equal, an increase in the number of antisurface warfare or ground attack munitions means a decrease in either air defense or antisubmarine warfare munitions, decreasing the ship's own survivability.¹¹⁹ Another major weakness identified by Chinese naval analysts is the size of the force structure of the current fleet. PLA naval scholars argued that the United States does not currently have enough ships, even if it undertook arming currently unarmed ships, to effectively implement distributed lethality.¹²⁰ These same articles pointed out that the current force is made up of high-tech ships with comparatively high operation and maintenance costs, which are ill-suited for distributed operations. However, replacing the current surface fleet means significant time and capital investments, resources that the USN is unlikely to receive in the current budget environment.¹²¹

Scholars noted the apparent contradiction between the need to communicate and find targets and the need to avoid detection. As already noted,

¹¹⁵ Han Yi and Chu Xin, 2018.

¹¹⁶ Chen Hebin and Mao Xiaohei, 2016, p. 2.

¹¹⁷ Huang Junsong, 2018, p. 61.

¹¹⁸ Huang Junsong, 2018, p. 61.

¹¹⁹ Chen Hebin and Mao Xiaohei, 2016, p. 3.

¹²⁰ Chen Hebin and Mao Xiaohei, 2016, p. 3.

¹²¹ Hu Bo, 2018.

PLA scholars appear to believe that distributed operations accept the risk of piecemeal destruction to increase force survivability through maximizing target detection costs for the PLA. Furthermore, units will not be able to communicate and coordinate at will but rather will operate independently for long stretches to avoid detection, likely increasing the friction between local forces and between high headquarters and the disaggregated force.¹²² As a result, some authors believe that distributed lethality was workable only against inferior opponents and when the United States held a relative ISR advantage.¹²³ Along the same lines, assuming that a peer or near-peer adversary possesses the necessary ISR and data fusion capabilities, a distributed lethality force becomes easy to destroy.¹²⁴ In a similar vein, the scholars expressed that disaggregated forces require persistent, looped, secured, high-speed, and long-range communication networks.¹²⁵ Without such a system, the disaggregated force cannot concentrate fires to saturate enemy defenses.¹²⁶ However, such a system is technically complex, difficult to create, expensive to maintain, and (with current technology) still susceptible to EW.¹²⁷ Authors also pointed out that a distributed lethality ISR network has many of the same requirements, which the current U.S. system fails to meet fully, especially in terms of long-range data links.¹²⁸

PLA Response

When most PLA authors discussed concepts such as MDO, ASB, and PCA, they recommended that the PLA should rapidly improve its capabilities to control the EM spectrum, improve the collection and fusion of ISR data, optimize its C2 system, continue to increase its long-range precision fire

¹²² Han Yi and Chu Xin, 2018.

¹²³ Han Yi and Chu Xin, 2018.

¹²⁴ Chen Hebin and Mao Xiaohei, 2016, p. 3.

¹²⁵ Han Yi and Chu Xin, 2018.

¹²⁶ Tan Shengling et al., 2019.

¹²⁷ Huang Junsong, 2018, p. 66; Chen Hebin and Mao Xiaohei, 2016, p. 3.

¹²⁸ Han Yi and Chu Xin, 2018; Tan Shengling et al., 2019; Zhao Hongyan, 2019, p. 5.

capabilities, and expand and improve its cyber tools.¹²⁹ Interestingly, despite apparently sharing a similar technological development strategy as the United States, the PLA authors believed that such a course is a continuation of current PLA policies and not an adoption of distributed operations. With that said, a minority of naval authors did advise adopting distributed operations.

Authors falling into the adoption camp argued that distribution is the “winning mechanism” of informatized warfare.¹³⁰ While urging China to adopt distributed lethality capabilities of its own, these authors acknowledged that the PLA lags in data-fusion and transmission capabilities necessary for a disaggregated force to operate effectively. However, these same authors argued that China can leverage current commercial off-the-shelf algorithms to bridge the gap.¹³¹ The adoption camp also maintained that distributed lethality is not necessarily at odds with asymmetric capabilities. A2/AD systems can be used in a distributed manner consistent with the needs of the PLA. As Huang Junsong argued, it is more important to analyze and discover distributed lethality’s core principles and then apply them according to China’s situation.¹³²

The authors arguing for a continuation of current strategy focused on improvements to the PLA’s ISR and LRPF capabilities. For example, author Ren Yahuan argued that ASB’s main weaknesses were in areas that play to PLA strengths, such as control of the EM spectrum. If the PLA can disrupt a U.S. force’s communication through EM attacks, long-range precision attacks, or cyberattacks, then the U.S. force ceases to be combat-effective.¹³³ Naval scholars Yi Liang and Lu Yang argue that distributed lethality’s benefits can be mitigated by improving China’s space-based and high-altitude long-range ISR UAV capabilities, as well as the PLA’s data-fusion capacity. By doing so, the PLA would be enabled to effectively target

¹²⁹ Ren Yaguan, 2016, p. 10; Hu Jie Min, Guo Meishu, and Yang Bin, 2011, p. 53; Xia Yuxuan, Huang Gaoming, and Li Tiebing, 2016, p. 59.

¹³⁰ Huang Junsong, 2018, p. 67.

¹³¹ Tan Shengling et al., 2019.

¹³² Huang Junsong, 2018, p. 67.

¹³³ Ren Yaguan, 2016, pp. 1–4, 10.

all ships in a region quickly, resulting in the piecemeal destruction of the American fleet.¹³⁴ Additionally, the procontinuation scholars agree that the carrier strike group remains the backbone of U.S. naval operations under distributed lethality, though in an EW/ISR support role.¹³⁵ The authors argue that improvements in anticarrier technology are necessary to limit U.S. ISR capabilities, without which the distributed force is helpless.¹³⁶ There is some divergence among naval authors on which anticarrier technologies should be developed. Li and Lu write that the PLA needs to improve the joint theater combat system by better integrating elements from the PLAAF, PLARF, and the People's Liberation Army Strategic Support Force to operate as a joint force, thereby increasing the number and type of anticarrier strike platforms.¹³⁷ Liu Yang and Jiu Jianing argue in their paper "United States Navy Equipment Technology for 'Distributed Lethality' Concept" that the PLAN needs to focus on creating effective carrier groups and integrating these groups with reef-based platforms.¹³⁸

Descriptions of emerging concepts showed only marginal differences regardless of which U.S. service branch was being described. This convergence seems to indicate widespread agreement among PLA scholars regarding emerging trends in U.S. military thinking. It is worth noting that the sample authors seemed to believe that the current U.S. conceptual developments are a continuation of extant trends stretching as far back as net-centric warfare.¹³⁹ Therefore, it appears that PLA scholars see current U.S. military developments as fulfilling aspirations reaching as far back as the 1990s.

PLA authors expressed a belief that emerging U.S. C4ISR systems and frameworks will improve intelligence gathering, fusion, and quality while

¹³⁴ Yi Liang and Lu Yang, 2018, p. 7.

¹³⁵ Yi Liang and Lu Yang, 2018, p. 7.

¹³⁶ Liu Yang and Niu Jianing, "The Development of Ocean Strategy Theory and Its Enlightenment to China," *Journal of Dalian Maritime University*, Social Science Edition, April 2017, p. 99.

¹³⁷ Yi Liang and Lu Yang, 2018, p. 7.

¹³⁸ Liu Yang and Niu Jianing, 2017, p. 99.

¹³⁹ Liu Peng, 2010, p. 23.

decreasing data loss during transmission. These analyses appear to confirm that PLA scholars agree that rapid intelligence gathering, fusion, and dissemination is the central feature of future warfare. However, the authors also identified a trade-off between the free flow of information and network security. The authors also cited U.S. spending deficits and entrenched military service interests as significant roadblocks. The PLA scholars discussed USN and USMC concepts in terms of distribution, specifically using the term “distributed lethality.”

PLA Views on the Reality of Combat on Taiwan

PLA thinking on operations in both the air and maritime domains is dominated by its views of U.S. capabilities and operational concepts. In almost all respects, the PLA sees its success in those domains as directly connected to its ability to degrade and defeat the United States’ ability to intervene and successfully deny the PLA its operational objectives. This perspective is particularly true as it relates to an air- and maritime-heavy operation, such as a Taiwan scenario. While Taiwan does have some capacity to counter PLA operations in these two domains, the main fight with which the PLA has to contend is against the United States and, potentially, its allies, such as Japan.

This focus on U.S. capabilities does not mean, however, that the PLA discounts or ignores Taiwan’s military in its assessments. This is especially true in recent PLA analysis regarding ground operations on the island. This element of PLA planning for a future conflict is often overlooked. When it is discussed, it tends to be considered primarily in the context the PLA’s planning and capabilities to conduct amphibious operations and, increasingly, its ability to conduct airborne and airmobile operations directed at seizing specific high-value targets.

The PLA’s path to Taipei will be an arduous one, even if PLA authors do not explicitly say as much. Looking beyond an initial amphibious landing, this section presents PLA writing on “on-island” operations, encompassing urban and underground warfare, to assess whether Chinese authors judge this phase to be a difficult one. PLA writing on the complexity or difficulty in the urban battlespace could reflect growing awareness by the PLA that merely landing on the “main island” is an insufficient operational condition to assume victory over Taiwan in an armed reunification scenario. It is also

possible that earlier PLA writings from the mid-2000s simply left the task of defining military occupation of most of Taiwan's geography and population to follow the more immediate task of planning amphibious warfare. Certainly, the task of getting to the shore precedes occupying large urban areas like those of Taipei and Kaohsiung. In any case, more recent PLA writing acknowledges that to win political control of the island, the PLA must assume control of its major cities, requiring comprehensive urban warfare and occupation.¹⁴⁰ A recent review of PLA-sponsored writing, by journal or authorship, on the topics associated with conquering cities and fighting in hostile territory highlighted three emergent and somewhat interconnected themes: urban warfare, underground warfare, and "megacity" warfare.¹⁴¹

These three themes are not explicitly linked to a Taiwan scenario, either by direct mention or through euphemistic expression (e.g., "Large Island Campaign"), but these topics are discussed in detail so that it is possible to intuit whether the described battlefield conditions would apply to PLA forces conducting on-island operations. In the PLA writing covering these three interrelated themes, there is a present sense of battlespace complexity, difficulty for an aggressor, and—in some cases—a sense of PLA inadequacy to conduct tactically necessary actions in urban and underground settings. The following sections address possible friction points or difficulties addressed in these three warfare themes to determine whether there are analogous operational problems logically applicable to combat on Taiwan.

¹⁴⁰ Cao Zhengrong, Sun Longhai, and Yang Ying, 2014, pp. 173, 179, 191.

¹⁴¹ A *megacity*, roughly defined as a city or combined-city metropolis with a population of ten or more million people, was referenced in recent PLA writing. Adjacent to such topics as *urban* and *underground warfare*, *megacity warfare* was treated not as a distinct category of warfare but more as a trending term, perhaps borrowed from a U.S. Army source on the subject. PLA authors who have expressed interest in this term have not directly linked the idea to the greater Taipei area, the only area in Taiwan that would qualify as a 10 million-person metropolis. Instead, PLA authors have offered defensive and offensive concerns about how a megacity functions distinct from its smaller city brethren, and how megacities can be sustained or paralyzed in warfare. As the discussion was redundant to urban and underground warfare, PLA insights on megacity warfare were folded into the appropriate sections above. Notably, some PLA authors seemed concerned that, because China has several designated megacities, and the U.S. military was a proponent of contending with the megacity, then China was logically going to be a target of U.S. megacity war plans.

Recent PLA Views on Urban Warfare

Recent PLA commentary on urban warfare focuses on set-piece battles with an emphasis on individual cities, a challenge that offers difficult-but-achievable combat outcomes for a numerically superior aggressor. According to the author these challenges should be considered “the new characteristics of modern urban operations.”¹⁴² While not an oversimplification, these reviews make some assumptions about the urban combat environment when limited to the historical sample below. In treating urban warfare as a winnable proposition for an aggressor the following three assumptions stand out: (1) Authors treat urban warfare campaigns and city-sieging as an operation that takes place within a permissive environment that allows sufficient time to cordon enemy forces and conduct multiday feints and omnichannel PSYOP campaigns; (2) authors contend with terrain features specific to their case studies; cases with environmental features common to arid desert regions in the Middle East around cities like Fallujah, Iraq, and Aleppo, Syria—with some exceptions; and (3) the urban warfare domain has a defined perimeter that allows defenders to be cordoned, sieged, and eliminated. Defenders tend not to escape to fight another day.

Urban warfare on the island of Taiwan—as imagined by PLA authors—would not allow assumptions 1 and 2 to be true. On the main island, PLA forces anticipate “constant counterattacking” from defenders so that the more elaborate preparatory operations necessary to support a coordinated urban assault seem unlikely to occur in a contested domain.¹⁴³ Additionally, PLA discussions on seizing urban areas on the main island do not hint for or encourage advancing units to delay attacks, urging on-island units to “quickly” and “rapidly seize the political center,”¹⁴⁴ suggesting that there is disconnection between how the PLA believes it should fight urban warfare and how the PLA wants to advance a large island campaign that encompasses two to three urban warfare scenarios in Taiwan’s northern, southern, and central regions. There is an inherent tension between the need for

¹⁴² Li Jiufeng, “A Classic of City-Siege Warfare—A Perspective on Falluja ‘Operation Phantom Fury,’” *Military Digest*, March 2019, p. 55.

¹⁴³ Cao Zhengrong, Sun Longhai, and Yang Ying, 2014, pp. 190–192.

¹⁴⁴ Cao Zhengrong, Sun Longhai, and Yang Ying, 2014, pp. 190–191.

PLA speed to “lower the possibility of military intervention by the powerful enemy”¹⁴⁵ and the attenuated operational timelines that permit PLA forces to execute an urban warfare campaign. There are also strong logistical pressures on the PLA to expedite movement of materiel, and as the PLA transitions from “the landing combat phase to the island combat phase,” troops are put at risk in a confined ingress path.¹⁴⁶ Massing forces at any point creates a vulnerability to counterattack, reduces operational tempo, and is a real concession to Taiwan’s confining geography.

PLA authors may have emphasized Fallujah-like scenarios because these urban scenarios represent the best-case scenario imaginable for PLA planners: an urban warfare operation that entailed roughly six days of violent combat operations followed by near total control of a city—a solid week’s work. That timeline is to say nothing of the months of advance planning and preparation that the Iraqi, American, and British forces committed to the battlespace in a relatively permissive environment. PLA emphasis of military case studies may suggest that its urban warfare studies of Aleppo, Grozny, Sarajevo, Mogadishu, and Gaza offer an unmanageable problem set: grueling multiyear city battles with dogged defenders who avoid or cannot deliver meaningful political capitulation. For good reason, some Chinese authors have described this kind of warfare as a “a human meat grinder.”¹⁴⁷

Because of the inherent difficulties of urban warfare and an aggressor-to-defender force balance that is sometimes stated as high as a 13:1 ratio in the case of urban assault,¹⁴⁸ it is worth asking whether the PLA even believes urban warfare is necessary to win control of Taiwan to achieve national reunification. Could the PLA “leapfrog” urban areas while contending with Republic of China (ROC) forces elsewhere on the island? Could the PLA conquer the island while sieging urban defenders on its own schedule? The answer to both questions seems to be “no.” The PLA insists that it is a strate-

¹⁴⁵ Cao Zhengrong, Wu Runbo, and Sun Jianjun, *Informatized Joint Operations*, Beijing: People’s Liberation Army Press, 2008, p. 188.

¹⁴⁶ Cao Zhengrong, Sun Longhai, and Yang Ying, 2014, pp. 190–192.

¹⁴⁷ Shi Chunmin and Dong Jianmin, “Underground Space: A Key Battlefield for Future Wars,” *China National Defense News*, October 18, 2018.

¹⁴⁸ Shi Chunmin and Dong Jianmin, 2018.

gic imperative to seize the enemy's capital to force political unification, and the PLA predicts that the cities are fortresses that will house defending units preventing the effective reunification of the two political entities. One 2014 source states, "For this reason, the ability to successfully capture the enemy cities and mountain defenses that continue to resist with strong fortifications will directly affect the complete control of the island."¹⁴⁹ The author euphemistically refers to Taipei thus: "In the early stage of operations on the island, being able to capture or control the political center of the island first can reduce the resistance of other defenders on the island and shorten the process of large island joint offensive campaigns."¹⁵⁰

Specifically, in the case of urban warfare on Taiwan, the capital and political center, Taipei, must be seized and occupied to effect victory. And, more generally, pivotal cities with large populations are "a core battlefield that determines the battle situation. Perhaps the fall of a certain city determines the direction, process, and ending of the war."¹⁵¹ The other assumption regarding city perimeters and set-piece city sieges may have been topics beyond the scope of these authors' interests. It is worth noting that Taiwan's urban commercial building features are not lost on PLA planners, and the differences between Fallujah's or Aleppo's structures and a more modernized metropolis like Taipei make Taipei challenging in ways that the Middle Eastern cities are not. In particular, Taipei's urban "extremes" are relevant for city warfare discussions, since Taipei has a number of skyscrapers that are taller than 1,000 feet and many commercial underground facilities and transportation hubs that run deeper than 100 feet. A review of the historical urban warfare examples cited and the authors' consensus opinion on the outcomes—defender's or aggressor's advantage—is noted in Table 5.2.

The Second Battle of Fallujah was the most common example or case study provided in the texts, and its emphasis in PLA writing may also have something to do with the volume of open-source information available on Operation Phantom Fury, strong residual PLA interest in analyzing the Gulf

¹⁴⁹ Cao Zhengrong, Sun Longhai, and Yang Ying, 2014, p. 167.

¹⁵⁰ Cao Zhengrong, Sun Longhai, and Yang Ying, 2014, p. 173.

¹⁵¹ Xia Wei, Liu Xinxue, Zhang Weiliang, and Qiao Ya, "Using the Second Battle of Fallujah as a Blueprint to Promote Modern Urban Warfare Research," *Conmilit*, November 5, 2016, p. 86.

Wars, and the time elapsed from analysis to case study. Aleppo and Mosul were both referenced by the PLA Ministry of Defense,¹⁵² but open-source documents on these more recent urban battles (~2016) may be in lower circulation than those chronicling the relatively well-documented battles of the Second Gulf War. A notable feature that emerges from Table 5.2 and PLA discussion on urban warfare is that underground warfare plays a significant role in determining conflict outcomes. Underground structures, particularly tunnels and coherent transportation networks, are identified

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Shi Chunmin and Dong Jianmin, 2018.

TABLE 5.2

Select PLA Takeaways on Urban Warfare: 1993–2017

Urban Warfare Example	PLA Notes as Critical	Outcome	PLA Treatment
Battle of Mosul (2016–2017)	<ul style="list-style-type: none"> • Aggressors eventually built a 13:1 ratio of attack • Defenders' tunnel networks greatly delayed capture 	Aggressors defeated defenders	Infrequent mention
Battle of Aleppo (2012–2016)	<ul style="list-style-type: none"> • Defenders delayed defeat through tunnel network 	Aggressors defeated defenders	Periodic mention
Gaza Strip (2014)	<ul style="list-style-type: none"> • Aggressors failed to eliminate tunnels before invading 	Defenders achieved stalemate	Periodic mention
Second Battle of Fallujah (2004)	<ul style="list-style-type: none"> • Aggressors could fight at night with night-vision goggles and snipers • City effectively blockaded 	Aggressors defeated defenders	Frequent mention and case studies
Battle of Baghdad	<ul style="list-style-type: none"> • Aggressors used advance strikes, propaganda to divide populace 	Aggressor defeated defenders	Periodic mention

Table 5.2—Continued

Urban Warfare Example	PLA Notes as Critical	Outcome	PLA Treatment
Battle of Grozny (1996)	<ul style="list-style-type: none"> Defenders were secretly reinforced Aggressors attempted to use heavy armor in the city 	Defenders achieved victory	Periodic mention
Siege of Sarajevo (1993–1995)	<ul style="list-style-type: none"> Defenders’ access to tunnels allowed for indefinite combat resupply 	Defenders achieved stalemate	Infrequent mention
Battle of Mogadishu (1993)	<ul style="list-style-type: none"> Tall buildings closed gap with air support Somali underground networks 	Defenders achieved stalemate	Infrequent mention

SOURCE: Authors’ analysis of terms “Urban Warfare,” “Underground Warfare,” and “Megacity Warfare” in select texts from China National Knowledge Infrastructure (CNKI).

as an emergent warfare domain, possibly joining land, air, sea, space, and cyberspace as pivotal warfare discipline.

Underground Urban Warfare: The Sixth Domain?

As a subplot of urban warfare, underground warfare as the possible “Sixth Domain” of warfare has emerged as a discussion thread among PLA authors in the past few years. This domain is relevant to on-island operations because Taiwan’s major urban areas have numerous subsurface military and commercial spaces. PLA authors note that for underground warfare, past is often prologue, but 21st-century underground warfare has distinct nonmilitary features. PLA authors observe, in a loose taxonomy of the domain, that of the three major underground structures a modern society has—below-ground commercial buildings and parking, transportation, and military reinforced bunkers—only one is explicitly under the remit of the military.¹⁵³ Some Chinese authors have said that the almost guaranteed

¹⁵³ Shi Chunmin and Dong Jianmin, 2018.

growth in civilian underground sprawl suggests that future armies hoping to conquer a city will be “controlling and occupying underground facilities such as subways.”¹⁵⁴ It is also important to point out that PLA authors are not simply recasting Vietnam-style “tunnel rat” warfare or Soviet-Sino-era conflict bomb shelters in a new light.

These authors are working through how to fight in nontraditional settings, stating that “large-scale underground shopping malls, subways, underground parking lots, sewers, tunnels, air-raid shelters and other urban underground facilities serve *as the main platform* for tactical defense and tactical offense in urban operations.”¹⁵⁵ These writings indicate a present deficit of soldier and leader awareness, trained cadre and underground warfare equipment suitable for large-scale combat operations, such as breathing apparatus, and express concern that “after investigation and study, at present, our army has little research on the operation of underground space.”¹⁵⁶ If the PLA has a dedicated force capable of fighting underground, it was not referenced in these writings. One writer was critical of the scattered way in which PRC underground warfare knowledge was atomized across military and nonmilitary entities, urging that “we should build an underground warfare main force that is familiar with the basic tactics of underground offensive and defensive, proficient in the operations of offensive and defensive weapons and equipment . . . and has a strong fighting spirit.”¹⁵⁷

On the topic of underground warfare, the discussion on the necessary tactics and equipment that the domain requires is not explicitly linked to warfare on Taiwan (although it may be in other, privileged texts). However, discussions on large-island campaigns do identify substantial underground tunnels and infrastructure as a part of the battlespace: “After decades of engineering construction, the enemy of large islands has built an island for-

¹⁵⁴ Shi Fei, “Where Will the Confrontation in the Most Secret Recesses of the Earth Go?” *Sun Tzu Studies*, No. 6, General No. 24, 2018.

¹⁵⁵ Wang Wang and Wang Hangdong, “A Preliminary Study on Physical and Mental Adaptability Training in Urban Underground Space Combat Environment,” *Journal of Military Physical Education and Sports*, Vol. 36, No. 3, July 2017, p. 8.

¹⁵⁶ Wang Wang and Wang Hangdong, 2017, p. 9.

¹⁵⁷ Liu Anqiang, Liu Weidong, and Xu Peng, “On Building Up Underground Combat Power,” *National Defense Science and Technology*, Vol. 38, No. 1, February 2017.

tification defense system with a tunnel as the core.”¹⁵⁸ And PLA campaign-level documents do not overlook the numerous ROC military facilities assessed to be constructed underground that could include fighting positions, supply depots, and airplane hangars.¹⁵⁹ The same campaign-focused documents seem to assume a level of ease in city and underground warfare that more tactical documents do not grant. One document from 2008 urges, if enemy forces stubbornly remain underground, to “organize some force to thoroughly mop up the remnants of the enemy, particularly those in the hidden areas inside the buildings and the underground engineering facilities,”¹⁶⁰ treating Taiwan’s city and below as the culmination of the campaign rather than the start of a new stage of combat. What these documents do assume is that the prescribed solution for eliminating military underground facilities—precision-guided munitions and coordinated calls for fire—are applicable across the underground domain. These techniques may make sense near the beach, but other PLA urban warfare authors pour cold water on this technique in densely packed urban and subterranean locations, stating that here [urban, underground], “especially heavy weapons cannot play a role.”¹⁶¹

The apparent disconnect referenced earlier between the desired operational tempo in urban warfare in campaign planning and how PLA writers envision a modern urban warfare scenario occurring is true for underground warfare as well. None of this is to suggest that the PLA could not forgo more extreme options of Stalingrad-style decimation to clear and reduce resistance by using coordinated calls for fire and precision-guided munitions to reduce defenders in Taipei, Taoyuan, and New Taipei City. However, these methods are not guaranteed to be effective, as PLA authors have already observed in regard to the battle for Aleppo, and scenes of city-raiding may be exactly the visual message that the PLA hopes to avoid in

¹⁵⁸ Cao Zhengrong, Sun Longhai, and Yang Ying, 2014, p. 112.

¹⁵⁹ *Informatized Joint Operations*, 2008, p. 167.

¹⁶⁰ *Informatized Joint Operations*, 2008, pp. 205–206.

¹⁶¹ Han Qinggui, “Adapt to the Characteristics of Urban Operations and Continuously Improve the Level of Weaponry and Equipment,” *National Defense*, No. 1, 2018, p. 76.

managing “an extremely complex strategic background” that risks “military intervention by powerful enemies.”¹⁶²

PLA writers concede—even in campaign documents—that getting through a city and its underground will be tough, stating that “urban offensive operations will face an extremely difficult task.”¹⁶³ The two campaign documents cited here do not elaborate on how urban offensive operations could be “difficult” outside of offering the defender superior terrain, but PLA training and physiological journals paint a more complete picture of what difficult conditions may include in underground warfare as PLA light infantry encounter dark and poorly ventilated terrain. One source states that soldiers will suffer “psychological performances such as depression, irritability, fear, loneliness, mental fatigue and panic in combatants,” leading to “a serious decline in combat effectiveness,”¹⁶⁴ perhaps induced around the seven-day mark of continuous urban and subterranean operations. Another source observes that the Russians and the Americans expected to have 90 percent to 95 percent of all their combat casualties in these confined domains in their recent conflicts, and the author seems to play the foil to PLA campaign document confidence, bluntly stating of the urban enemy, “It is difficult to effectively kill them.”¹⁶⁵

Possible Contradictions

Reading both sets of documents together—the on-island campaign documents and more-contemporary PLA urban and underground warfare articles—seems to raise two contradictions regarding the “when” and the “how” of fighting. The first contradiction is the time component; the operational tempo described in on-island operation is missing from the reality of urban and underground warfare. PLA writers acknowledge that the fight in

¹⁶² Cao Zhengrong, Sun Longhai, and Yang Ying, 2014, p. 115.

¹⁶³ Cao Zhengrong, Sun Longhai, and Yang Ying, 2014, p. 168.

¹⁶⁴ Wang Wang and Wang Hangdong, 2017.

¹⁶⁵ Yang Jinpeng and Huang Zihang, “Analysis of Individual Soldiers’ Physical Needs in Urban Operations,” *Journal of Military Physical Education and Sports*, Vol. 36, No. 2, April 2017, p. 3.

Taiwan's cities must happen to achieve reunification, they acknowledge that the fight must be fast to avoid external intervention by a "strong enemy," and they also acknowledge that urban and underground warfare is a brutal slog, prone to generate high attacker casualties, that does not play out quickly. Based on the ten or so examples that PLA authors cite, months and not days represent an optimistic time horizon to seize and hold an urban area. An unasked question regarding this time component is "What is a feasible delay to keep a 'strong enemy' out of the conflict?" PLA sources do not give a clear response to that issue, which is perhaps why authors of *Informatized Army Operations* add the exhortative "quickly" to do, seize, or attack over 200 times in their volume.¹⁶⁶

The second contradiction is in the PLA combat means to secure urban and underground facilities as part of seizing Taiwan. How will forces optimized for amphibious attack be able to also storm cities? Other PLA writers referenced here have noted in combat and medical articles that the equipment arsenals and training required to win urban confrontations are a distinct warfare discipline, with uniquely specialized breathing equipment, ground- and air-based drones, explosive kits to conduct "mouse-holing" between adjacent buildings, earth excavators, etc.¹⁶⁷ In what one must imagine is a pell-mell move through divergent battle domains, the PLA must first conduct an amphibious landing, then a road march inland, then conduct urban warfare, underground warfare, jungle warfare, and mountain warfare on the path to occupation and eventual victory. The 2008 and 2014 campaign documents assume throughout this fight that strike assets and mobile infantry can be applied to the capture of Taiwan's political center. Those authors—using analogous reasoning—see the 2003 Coalition capture of Baghdad as the preeminent example of an invasion force being flexibly used to capture a political capital. However, the PLA forces, as described, do not seem to be equipped to fight *in* and *under* cities at this time. No doubt, if the PLA chooses to send its forces into the "human meat grinder," it may well do so, but the bulk of cases that the PLA itself is examining suggest that the fight will not be quick nor immediately favor the aggressor.

¹⁶⁶ Cao Zhengrong, Sun Longhai, and Yang Ying, *Informatized Army Operations*, Beijing: National Defense University Press, 2014.

¹⁶⁷ Xia Wei et al., 2016, p. 88.

PLA authors at the campaign level concede some level of difficulty in conducting on-island operations. When they choose or are asked to write about specific warfare domains or environments, especially urban and underground warfare domains, PLA authors are much more specific and compelling in describing what constitutes challenging battlefield conditions. Many of these articles are written in a *location-agnostic* style, i.e., the author may be thinking of Taiwan or somewhere else, so the reader does not know truly where these descriptions would hold. Still, many of the urban and underground conditions that these authors describe do exist in Taiwan and, because of Taiwan's level of modernity, are especially applicable in the dense, vertically developed urban areas like greater Taipei. It is unclear whether the PLA thinks a Taiwan scenario could include an on-island stalemate or multimonth fight. What is clear is that if these same PLA authors are intellectually consistent in their treatment of urban and underground warfare disciplines, a Taiwan conflict must also include hard fighting in urban and underground domains—at least, that is, if the PLA makes it off the beach.

Conclusions

The PLA's views of the military balance should be viewed as a story of mixed success, continued challenges, and unrealized potential. The modernization of PLA weapon systems has been well documented and is clearly a mark of success. Similarly, the development and integration of advanced technology—particularly for C2, command automation, and ISR—has also been an area of great progress for the PLA. From a material standpoint, the PLA of today is vastly more capable than its predecessors over the past three decades and before. Most notably, the PLA's ability to hold third-party forces at risk throughout the region has had a notable impact, forcing changes in the operational concepts of its “strong enemy”—the United States.

Likewise, PLA efforts to improve training and develop new operational concepts are significant steps forward for the PLA from an employment perspective. Three decades of efforts to identify and exploit new technologies and practices in PLA training have had a significant impact on the type of training underway in the PLA. Likewise, the PLA has placed a great deal

of emphasis on standardizing training across the force and implementing new guidelines to improve realism and ensure that training content reflects combat conditions to the greatest extent possible. PLA exercises and training events are also increasingly held to these standards by a PLA-wide inspection mechanism designed to ensure compliance.

Despite substantial progress in these areas, the themes and slogans highlighting systemic problems demonstrate broad concern within the PLA regarding its reliability, ability to command, warfighting capability, and level of modernization. When considered in the context of Xi's concerns, these problems indicate what the PLA sees as substantial shortcomings in areas critical to its ability to "fight and win wars" and its "preparation for military struggle." Persistent concerns about the quality and realism of PLA training, despite its reform efforts in the area, have limited the PLA's progress in joint operations and systems warfare. Similarly, the areas highlighted in slogans such as the "Five Incapables" are core requirements for the effective prosecution of systems warfare-related CONOPs, such as target-centric and information-firepower strike warfare.

Many of the concerns being addressed in PLA political work go well beyond political reliability and reveal major cultural problems within the PLA. Emphasis on corruption, poor "work styles," a lack of "fighting spirit," bureaucratism, and formalism show a series of corrosive elements that have made it difficult to tackle reforms and have required attention from Xi himself. These "malpractices" are regularly attributed to the development of "peacetime habits" and called a sign of "peace sickness" that has developed largely because of the PLA's lack of recent combat experience. As a result, Xi's direct attention and his emphasis on the importance of political work goes directly to the PLA's effectiveness as an organization and its ability to reform and adapt to the new requirements of modern warfare.

Xi's concerns and the PLA's recognition of shortcomings in its preparations for military struggle suggest that in a situation in which the PLA is confronted with the possibility of armed conflict with the United States, Xi and other PRC political and military leaders might not have full confidence in the PLA. In situations involving shows of force and coercion, many of which are on regular display today, the PLA's actions do suggest that Xi sees PLA capabilities as viable for those purposes. The most important question about how China sees the military balance, however, involves the extent to

which Xi's concerns about the PLA constrain his willingness to use it and are deep enough for him to seek alternative courses of action in an actual confrontation or crisis.

Chinese and U.S. Policymakers' Views of Risk over Taiwan

In this chapter, we look at the various risk factors that will shape and constrain how Chinese policymakers view military options, particularly an invasion, as a potential policy option for unification with Taiwan while also exploring specific risk factors shaping U.S. policymakers' decision-making to defend or not to defend Taiwan. In examining the factors that would shape China's decision to use force to invade Taiwan, we argue that continuing negative views of the military balance by the PRC's top leaders, particularly President Xi, are likely to diminish Beijing's willingness to use the PLA in high-risk operations that may reveal PLA shortcomings. If such shortcomings result in major military failures, strategic goals such as the "China Dream" may be jeopardized and, in turn, those setbacks may pose fundamental challenges to the CCP's continuing rule over China. This chapter also presents the history of U.S.-Taiwan relations and examines the factors that shape U.S. intervention on behalf of Taiwan and potential escalation in this conflict scenario.

The PRC claims that the ROC (Taiwan) is an inalienable part of its rightful territory and has been "since time immemorial"; the PRC has consistently refused to abjure the threat of the use of force to absorb the island if it cannot peacefully negotiate Taipei's unification (or, per the PRC's preferred phrasing, "reunification") with mainland China. On May 29, 2020, Gen. Li Zuocheng, Chief of Staff of the PLA, reiterated China's willingness to "take all necessary steps to resolutely smash any separatist plots or actions" by

Taiwan.¹ Yet, because of the PRC's long-term military weakness and inability to project power over water and the United States' explicit and implicit defense guarantees, an invasion to unite Taiwan with China has not come to pass.

With China's rapid military buildup and economic modernization in recent decades, long-held perspectives and assumptions about the PLA's basic capability to invade Taiwan must be reexamined to address both the PLA's technological and material progress and its organizational restructuring and personnel reforms. Many factors continue to make a hypothetical invasion risky, as China's continued modernization, basic territorial security, and even the CCP's ability to rule might be placed in grave jeopardy if such an operation were to fail. At the same time, U.S. willingness to defend Taiwan is viewed by all sides as the crucial variable determining the success or failure of any PRC invasion attempt.

Chinese Policymaker Views of Risk

Beijing's insistence on Taiwan's unification is well known. Yet, for decades, China has tolerated an autonomous Taiwan. Why has Beijing avoided major military operations to control Taiwan? What does this refusal say about the island's significance for the CCP's legitimacy? What factors either enable or constrain China's ability to carry out military operations to control Taiwan? How might Beijing's views about Taiwan affect its willingness to sacrifice China's broader interests or allocate military forces in a related conflict?

Answers to such questions carry important implications for DoD planners in peacetime, crisis, and war. The more China values control of the island, for example, the more Beijing may be willing to risk achieving its other national objectives to obtain forced unification, including possible military aggression. And if the CCP regards Taiwan as central to its legitimacy, Beijing may commit vast amounts of military resources to achieve unification in a conflict, even at the expense of competing strategic objectives. Conversely, a Beijing that weighs Taiwan as less important than other

¹ Yew Lun Tian, "Attack on Taiwan an Option to Stop Independence, Top China General Says," Reuters, May 28, 2020.

goals might hesitate to sacrifice the nation's economic and social development and prosperity or a large portion of its armed forces in a related conflict. It might also weigh skeptically the value of continuing a Taiwan conflict when the fight demands resources that undermine Beijing's ability to secure higher-order strategic objectives.

Brief Overview of China's National Security Objectives and Taiwan Unification

Under Xi, China's leadership has outlined a vision of national revitalization called the "China Dream." The ambition to realize a strong, prosperous nation by mid-century builds on the work of previous governments stretching back to Deng Xiaoping, who envisioned a similar end state as the "rejuvenation of the Chinese people."² The details of this end state are updated at every five-year Party congress. Accordingly, they were last revised in an authoritative manner at the 19th Party Congress in 2017. According to the Congress report, China will have "basically accomplished modernization" by 2050. Among a variety of political, economic, social-welfare, and ecological goals, the report listed the aim of China becoming "a global leader in innovation" (Table 6.1).

China's basic foreign policy strategy for the "new era" under Xi supports the country's efforts to realize its vision of the China Dream through

TABLE 6.1
China Dream Domestic End State by 2050

Domain	Sample Objectives
Political	Stable political system featuring CCP rule and socialist political system maintained, as well as responsive government
Economic	Prosperous economy with high per capita gross domestic product (GDP); China a global leader in technology
Cultural	Chinese culture is internationally admired and influential
Social welfare	Citizens enjoy quality health care, education, social welfare benefits
Ecological	Pollution is largely controlled, and citizens enjoy a healthier and cleaner environment

² Cai Mingzhao, "Connotations of Chinese Dream," *China Daily*, March 5, 2014.

foreign investment and norms-setting. Yet, when contemplating military action against Taiwan and the prospect of war with the United States, Chinese leaders must also weigh the potential costs that might derail the PRC's foreign policy ambitions, which include becoming both the leading power in Asia and a contender for global leadership. These objectives will require Beijing to maintain and perhaps mobilize international support among its partners, as well as maintaining its credibility and influence as a leader in multilateral venues.

Factors Shaping China's Decision to Invade Taiwan

Beijing might choose to limit its reaction if it viewed a political crisis in Taiwan or localized military incident as unlikely to sabotage China's long-term prospects for unification. In this type of situation, PRC leaders might judge that the costs of acting too assertively could endanger other, more immediate national objectives, particularly if viable pathways to unification remained. However, in the event of a severe cross-Straits crisis or conflict in which unification options appeared to be imperiled, Beijing might have little choice but to elevate the Taiwan situation as a priority issue, forcing a more aggressive response based on a presumed or perceived risk of domestic political backlash. In doing so, Chinese leaders would be incentivized to consider riskier military options. This section outlines the specific factors that shape Chinese policymakers' views toward the risks and potential rewards of conflict.

Achieving the China Dream

The 19th Party Congress provided no timelines for the resolution of Taiwan's status. In part, this likely reflects the sensitivity of the issues, as well as the reality that China has little ability to directly control Taiwan's behavior. However, Beijing's position on Taiwan unification is clear. The 19th Party Congress report stated, "Resolving the Taiwan question to realize China's complete reunification is the shared aspiration of all Chinese people." It emphatically declared that Beijing will "never allow anyone, any organiza-

tion, or any political party, at any time or in any form, to separate any part of Chinese territory from China!”³

China’s government has consistently upheld the position that Taiwan belongs to China and has threatened violence to enforce that claim if necessary.⁴ The Chinese government upholds a “One China” policy that asserts that Taiwan is a part of China, and it has made adherence to that policy a condition of formal diplomatic relations.⁵ China has also enacted an “Anti-Secession Law” that provides a legal basis, if needed, for armed attack against the island.⁶ The PLA has carried out extensive preparations and exercises for a potential contingency related to the island. On several occasions, Beijing has also directed threatening missile tests to coerce Taipei, as it did in the 1950s and again in 1995 and 1996.⁷

Although there can be little doubt that Chinese leaders regard Taiwan unification as a condition of the China Dream, it may not be possible to achieve both the domestic objectives in Table 6.1 and Taiwan unification. If forced to choose between the two, Beijing’s behavior over the past few decades suggests that it would continue to favor achievement of the domestic objectives over Taiwan unification. The 19th Party Congress report continues to affirm the CCP’s focus on realizing domestic prosperity and national revival as the foundation of its legitimacy, and thus any initiative that falls short of achieving this end state, even if it includes Taiwan unification, could be regarded as a failure. Of course, the leadership could change its priorities and redefine the end state at any time, but as of 2020, the leadership appears to have defined the China Dream primarily in terms of the domestic objectives related to improved standards of living. Beijing’s foreign

³ “Full Text: Report of the 19th Party Congress,” Xinhua, October 18, 2017.

⁴ The refusal to renounce the use of force against Taiwan is maintained in the most recent Party Congress report: “Full Text: Report of the 19th Party Congress,” 2017.

⁵ State Council Information Office, “The One China Principle and the Taiwan Issue,” Beijing, February 21, 2000.

⁶ “Anti-Secession Law (Full Text),” Embassy of the People’s Republic of China in the United States of America, March 15, 2005.

⁷ Andrew Scobell, “Show of Force: Chinese Soldiers, Statesmen, and the 1995–1996 Taiwan Strait Crisis,” *Political Science Quarterly*, Vol. 115, No. 2, Summer 2000.

policy also remains focused on achieving the best international environment possible for achieving the China Dream.

The fact that the CCP has declared its intent to achieve Taiwan unification by mid-century does not obligate Beijing to carry out any military operation to meet that goal. PRC leaders have insisted since at least the 1990s that an indefinite delay in the process of unification could alone provide reason for an invasion, but they have offered few details about the circumstances that would lead Beijing to declare that an indefinite delay had materialized. In 1999, PRC Premier Zhu Rong-ji outraged the island by raising the threat of an invasion if the people of Taiwan voted for pro-independence leader Chen Shuibian.⁸ Taiwan rejected the warning, voted in Chen, and China did not invade. The island's democratization, moves to greater de facto independence, and the repeated election of pro-independence leaders since the 1990s have only underscored the reality of Taipei's de facto sovereignty.⁹ Yet Beijing has done remarkably little in terms of military actions to forestall such developments. Some experts argue that it is just a matter of time before Beijing decides to wage war to compel unification.¹⁰ Others argue that the moment for unification has passed.¹¹

Peacetime Security Threats

In addition to Taiwan, China faces a variety of additional competing security challenges and threats. China's 2019 defense white paper highlighted persistent threats from unnamed "external separatist forces" seeking to undermine "China's national security and social stability" by supporting "Tibet independence" and unrest in Xinjiang. It also noted the persistence of disputes over territorial boundaries and "maritime demarcation." However, threats that the PLA must address go beyond Taiwan and territorial issues. The white paper also noted "immediate threats" to overseas interests including "international and regional turmoil, terrorism, and piracy,"

⁸ "Taiwanese Outraged by Zhu Remarks," Associated Press, April 9, 1999.

⁹ Richard C. Bush, *Uncharted Strait: The Future of China-Taiwan Relations*, Washington, D.C.: Brookings Institution Press, 2013.

¹⁰ Zhao Suisheng, "Are China and Taiwan Heading Towards Conflict?" *National Interest*, September 28, 2016.

¹¹ "China Has Lost Taiwan, and It Knows It," *New York Times*, December 1, 2019.

as well as “threats to outer space and cyber security.” In addition, the paper warned of an “intensifying global military competition,” in which the PLA “still lags far behind the world’s leading militaries.”¹²

The consistency with which defense white papers recite a long list of dangers beyond Taiwan suggests that Chinese leaders see a variety of threats to the China Dream, of which Taiwan separatism is but one—albeit a key—issue. The main strategic direction of Taiwan and the maritime domain should thus be regarded more as the “first among equals” among a broad menu of threats for which the PLA must prepare in the modern era, rather than the near-exclusive driver of defense strategy. *China’s Military Strategy* from 2020 noted that China faces “various threats and challenges in *all* its strategic directions and security domains.”¹³ The expectations for improved readiness laid out in the strategy demonstrate Beijing’s determination that the PLA must be prepared to execute a variety of missions and tasks that address the breadth of threats, and in a manner that does not jeopardize the focus on achieving the China Dream.

Resource Allocation and Military Force Spending

When deliberating on a military course of action against Taiwan, Chinese leaders will have to evaluate the risk to competing objectives that the war might entail. Lower priorities might be dropped, but the leaders would retain a strong incentive to preserve opportunities to achieve goals regarded as critical to the CCP’s legitimacy. There are a variety of domestic and foreign policy considerations that could impose constraints on the resources available for PLA modernization initiatives as well as those available to be allocated for use in a Taiwan conflict.

In terms of constraints on the availability of resources for a military modernization, the most important would stem from limitations imposed by the economy and competition for domestic spending needs. A thorough examination of economic constraints on defense spending is beyond the scope of this research, but several key points may be considered. In a prolonged lead-up to conflict, an increasingly tense environment would provide a strong

¹² State Council Information Office, 2019.

¹³ Xiao Tianliang, *Science of Strategy*, Beijing: National Defense University Press, 2020, pp. 46–59.

incentive for Chinese leaders to increase spending on defense. In recent years, defense spending has slowed to about 7 to 8 percent of annual GDP growth—a contrast to periods in the 1990s and 2000s when PRC defense spending rose as high as 13 percent.¹⁴ Such robust increases were made possible, in part, by high GDP growth rates. For instance, as late as 2010, China enjoyed a GDP growth rate of 10 percent. By contrast, for the foreseeable future, growth rates are projected to be much slower—although, relative to the United States and its allies, PRC growth rates will remain high.

A 20-percent increase in defense spending would put serious strain on Chinese finances, especially given that the central government directly controls only about 25 percent of government spending.¹⁵ To pay for the increase, Chinese leaders would probably need to extract a higher portion of local government revenues, leaving less for spending on social welfare and toward maintaining growth and employment. However, there is a limit to how much they would want to cut domestic spending. Since the CCP's legitimacy rests in large part on its ability to deliver a higher quality of life, political authorities would probably hesitate to enact draconian cuts that severely reduced incomes, no matter how strident the anti-Taiwan propaganda. Maintaining domestic spending would also position Beijing to resume its pursuit of the China Dream following the conclusion of the Taiwan conflict. Concern about maintaining the viability of the domestic agenda would also provide a strong incentive to restrain the expansion of the Taiwan conflict.

Risks Associated with Military Invasion

Military considerations also likely weigh on Beijing's willingness to compel unification. Although a more thorough analysis of China's view of the military balance is presented in the preceding chapters, this section highlights the extremely high risk associated with operational failure and uncontrolled escalation that will accompany any PRC effort to compel unification with Taiwan through the use of force.

¹⁴ "China Defense Spending Set to Rise 7.5% as Xi Builds Up Military," Bloomberg, March 4, 2019.

¹⁵ National Bureau of Statistics of China, "National Government Revenue and Expenditure 2019," 2019.

The surest way for China to compel Taiwan's unification is through an invasion that results in the capture of key population centers (including the capital) and infrastructure, removal of Taiwan's government, and installation of a compliant regime. Operations short of an invasion risk failing to ensure Taiwan's capitulation. Historical experience provides little reason to believe a blockade would compel Taipei's capitulation.¹⁶ Missile attacks and bombing can create mass casualties, destruction, and suffering, but all available evidence suggests that campaigns of "mass terror" historically have resulted only in aggravating hostilities and fueling the resolve of the target country.¹⁷ Studies on the possibilities of economic coercion as a way of compelling capitulation similarly have yielded little to no evidence to suggest that such an approach could compel Taipei to surrender.¹⁸

Amphibious invasion carries significant risks and massive costs, however. To start, an opposed amphibious invasion remains an enormously challenging operation for any military, let alone one that has not fought a war in four decades, like the PLA. The invasion would be difficult to carry out against Taiwan's troops alone, who could menace approaching transports with missiles fired by coastal batteries, ground forces, and aircraft.¹⁹ But Beijing's decision to launch an invasion could also result in great power war with the United States. If the conflict escalated beyond Beijing's intent, the result could be a catastrophic setback to the nation's economic prospects and perhaps even mass civilian casualties. In addition, war with the United States risks both vertical escalation involving the potential use of nuclear weapons and horizontal escalation that could eventually draw in Japan and other regional powers allied or partnered with United States.²⁰ Similarly,

¹⁶ Bruce Allen Elleman and Sarah C. M. Paine, eds., *Naval Blockades and Seapower: Strategies and Counter-Strategies, 1805–2005*, New York: Routledge, 2007.

¹⁷ Robert A. Pape, *Bombing to Win: Air Power and Coercion in War*, Ithaca, N.Y.: Cornell University Press, 1996.

¹⁸ Murray Scot Tanner, *Chinese Economic Coercion Against Taiwan*, Santa Monica, Calif.: RAND Corporation, MG-507-OSD, 2007.

¹⁹ Josh K. Elliott, "Why China Isn't Ready to Invade Taiwan—Yet," *Global News*, January 20, 2019.

²⁰ Hu Shaohua, "Japan and the Cross-Taiwan Strait Conflict," *Journal of Chinese Political Science*, Vol. 11, No. 2, 2006.

discussions regarding combat on Taiwan in the previous chapter highlight the potential challenges that Beijing might face in fighting on and occupying Taiwan after a successful landing. The bloodletting and killing likely to accompany Beijing's forced unification with Taiwan would damage China's reputation as a peaceful, nonthreatening leader—possibly beyond repair.

Additional Military Constraints on Chinese Willingness to Invade Taiwan

How much of the military force would Beijing allocate to a Taiwan fight? We assume Chinese leaders have prioritized Taiwan as the nation's top strategic goal. However, there are several reasons why China would likely limit the commitment of all available forces to the fight. Chinese leaders must ensure adequate forces to support competing foreign policy objectives. Beijing would also have a strong incentive to preserve a substantial force after the conflict to maintain deterrence against regional competitors and protect the nation's security interests. Economic considerations likely would factor into decisions to limit combat losses, especially in such areas as expensive high-end platforms, critical infrastructure, economic and industrial resources, and people.

Competing Internal Security Tasks

While prosecuting the Taiwan conflict, Chinese leaders would also seek to preserve the PRC's ability to protect its internal stability and security. Chinese leaders will most likely have plans in place for securing those interests after a conflict, assuming the Taiwan war to be a limited one. In terms of political security on Taiwan, most of that work will be carried out by internal security forces, including the PAP. Although Taiwan would be the main front, Beijing also will seek to ensure adequate security in the restive regions of Tibet, Hong Kong, and Xinjiang, which would also likely be a PAP mission.

Regional Leadership

China's pursuit of regional primacy provides a strong incentive to preserve and maintain a substantial force after the conflict. A relentless war that consumed most of the PLA's aircraft and ships would weaken Beijing's ability to assert regional primacy and deter opportunistic efforts by rivals—including Japan and India—from taking advantage of the PRC's degraded capabilities

and military weakness, even if China won the war and defeated U.S. intervention. To forestall such an outcome and maintain its focus on regional primacy, Beijing would have to consider preserving a substantial force to defend itself after hostilities, possibly even at the cost of losing a Taiwan conflict. The Chinese leadership could always repackage a defeat as a political victory in which it demonstrated the ability to contend as a peer power of the United States while carrying out preparations to ensure a more successful performance in any subsequent engagement.

Competition with the United States

Another important foreign policy consideration for China is the great power competition with the United States. Whatever the causes of the conflict, Beijing would have a strong incentive to position itself on the moral, legal, and political high ground. To minimize damage to its own economy, the global economy, and the Asia-Pacific region, China may seek to keep the conflict limited in scope and duration. Preserving a substantial military force after the conflict would also bolster China's credibility as a contender for regional leadership. Of course, this competitive dynamic carries the risk that despite Beijing's intentions, the situation could escalate into a great power war.

Factors Driving Escalation for China

How much China might be willing to commit to a Taiwan fight could vary considerably according to the details of the scenario. However, several key factors could affect Beijing's willingness to either escalate the military's commitment or de-escalate the conflict. The most significant is likely to be the leadership's perception about the threat posed by the United States and its allies to China's ability to secure the China Dream.²¹ If Beijing took a pessimistic view regarding the potential for peacefully achieving its goals, then it would have a stronger incentive to consider risky measures to achieve those goals. A major military operation against Taiwan could become part of a broader strategy to relieve pressure on the PRC's deteriorating situation and weaken its adversary. In such desperate situations, Beijing might even

²¹ Michael J. Mazarr, *Understanding Deterrence*, Santa Monica, Calif.: RAND Corporation, PE-295-RC, 2018.

be willing to risk a regional or general war to stave off the United States' efforts to strangle the nation's rise.

Should the conflict over Taiwan escalate into a protracted great power war with the United States, however, Beijing would need to reconsider how to position its available forces for the long-term struggle. At that point, both capitals would be forced to contemplate such issues as mass mobilization, transition to wartime economies, and calibration of redlines for strategic weapons. These issues are important and deserve careful consideration but go well beyond the scope of this report.

U.S. Policymaker Views of Risk

Past research by RAND and other policy research organizations has consistently found that a dispute over Taiwan's status and an attempt by China to absorb Taiwan by force is probably the leading candidate for how the United States and China might find themselves at war. What factors would shape any U.S. decision to intervene? What would the United States bring to any such effort, and how hard would it fight? And what decision points might U.S. policymakers confront in the course of such a conflict?

To answer these questions, RAND researchers surveyed key historical and policy documents in the U.S.–Taiwan relationship, together with scholarly and policy analytic commentaries on the evolution of Washington's views of Taiwan over the years and contemporary media reporting. Recognizing that such documentary sources alone would not provide sufficient purchase on the questions above to answer them definitively, the RAND team also conducted 20 interviews with U.S. subject-matter experts.²² These included former senior U.S. government decisionmakers, foreign and defense policy officials, intelligence analysts, Congressional staffers, retired high-ranking military officers (both those with service leadership experience and those who have headed theater-level component commands), academics, and think-tank analysts.

²² Despite the willingness of many of those whom we interviewed to speak on the record, they were all promised anonymity so as to facilitate as frank an exchange of views as possible.

A Brief History of U.S.-Taiwan Relations

Initially disinclined to defend the ROC regime on Taiwan, the United States changed its views following the North Korean attack on the Republic of Korea in June 1950.²³ Fearing a broad communist push across Asia that might ultimately imperil Japan, President Harry S Truman ordered the U.S. 7th Fleet to block any PLA assault on Taiwan. In the San Francisco Peace Treaty of 1951, Japan formally renounced any “right, title, and claim to Formosa [Taiwan] and the Pescadores [Penghu Islands],” but did not, in so doing, pass them to the PRC, which had been founded almost two years earlier.²⁴ Refusing to recognize the PRC as the sole, legitimate government of China, the United States continued its preexisting relationship with the ROC.

From 1954 to 1979, per their defense treaty, the United States protected Taiwan, stationed forces there, and supplied it with advanced military technologies.²⁵ With the termination of the defense treaty and the recognition of Beijing came an end to the formal U.S. diplomatic recognition of the ROC. The U.S. Congress, however, stepped in to assert that the United States retained an abiding interest in the security of, and continuing contacts with, Taiwan. In passing the Taiwan Relations Act, the Congress made clear that “it is the policy of the United States . . . to make clear that the United States decision to establish diplomatic relations with the People’s Republic of China rests upon the expectation that the future of Taiwan will be determined by peaceful means . . . [and] to consider any effort to determine the future of Taiwan by other than peaceful means, including by boycotts or embargoes, a threat to the peace and security of the Western Pacific area and of grave concern to the United States.”²⁶

²³ David M. Finkelstein, *Washington’s Taiwan Dilemma: From Abandonment to Salvation, 1949–1950*, Annapolis, Md.: Naval Institute Press, 2014.

²⁴ United Nations, Treaty of Peace with Japan (with Two Declarations), San Francisco, September 8, 1951.

²⁵ Nancy Bernkopf Tucker, *Strait Talk: United States-Taiwan Relations and the Crisis with China*, Cambridge, Mass.: Harvard University Press, 2009.

²⁶ Public Law 96-8, Taiwan Relations Act, January 1, 1979.

As Taiwan democratized in the mid-to-late 1980s and consolidated its democratic transition from the mid-1990s through the mid-2010s, U.S. administrations of both parties and the Congress repeatedly acted to preserve Taiwan's ability to participate meaningfully in international society and to ensure that Taiwan retained an ability to defend itself through sales of arms, advice, training, and other contacts.²⁷

U.S. presidents have also acted to back Taiwan's security, as when President Bill Clinton sent two U.S. aircraft carriers toward the area during the Third Taiwan Strait Crisis in 1995–1996, and have made statements, as George W. Bush did in 2001, asserting that the United States had an obligation to defend Taiwan and would do “whatever it took.”²⁸ During the Obama administration, U.S. policy adopted a lower profile (in part because Taiwan President Ma Ying-jeou placed less emphasis on defense and more on trade and diplomacy in the management of cross-Strait relations) but sought to align its support for Taiwan with measures that would strengthen the island's resilience across both economic and military dimensions.²⁹

U.S. policy documents and official statements since 2017 have increasingly, repeatedly, and explicitly reaffirmed the Taiwan Relations Act and Taiwan's importance to U.S. security, with speeches by American officials, including Vice President Mike Pence, adding strong statements of support.³⁰ Former Secretary of State Mike Pompeo repeatedly described the U.S. view

²⁷ Susan V. Lawrence and Wayne M. Morrison, *Taiwan: Issues for Congress*, Washington, D.C.: Congressional Research Service, R44996, 2017.

²⁸ Zhao Suisheng, ed., *Across the Taiwan Strait: Mainland China, Taiwan, and the 1995–1996 Crisis*, New York: Routledge, 1999; David E. Sanger, “U.S. Would Defend Taiwan, Bush Says,” *New York Times*, April 26, 2001.

²⁹ Ryan Hass and Evan S. Medeiros, “Don’t Squeeze Taiwan,” Brookings Institution, February 7, 2018.

³⁰ White House, “Vice President Mike Pence’s Remarks on the Administration’s Policy Towards China,” YouTube video, Hudson Institute, October 4, 2018; “Vice President Mike Pence—Frederic V. Malek Lecture,” YouTube video, Woodrow Wilson Center, October 25, 2019; DoD, *Indo-Pacific Strategy Report: Preparedness, Partnership, and Promoting a Networked Region*, Washington, D.C., June 2019; Department of State, *A Free and Open Indo-Pacific: Advancing a Shared Vision*, Washington, D.C., November 4, 2019.

of Taiwan as being “a force for good in the world and a reliable partner,”³¹ while former National Security Advisor John Bolton, after stepping down from his position, has called for extending formal diplomatic recognition to Taiwan.³²

In short, bipartisan U.S. policy for seven decades, dating back to the early 1950s, has recognized the crucial value of Taiwan to U.S. national interests, values, and security. This consensus has held not only across parties and over time but also across branches of government. It has even held up across the decision to sever formal diplomatic ties with the ROC so as to recognize the PRC. And with Taiwan’s democratization since 1987, and especially its deepening consolidation of democracy since 2016, the trend in American policy toward broader and deeper cooperation with Taiwan and a deeper level of commitment appears to be growing.

Factors Shaping a U.S. Decision to Intervene on Behalf of Taiwan

Any attempt to assess the likelihood of a U.S. decision to come to Taiwan’s aid in a confrontation or conflict with China must go beyond simply citing the published record of U.S. policy statements, speeches, and legislation; it must also include an assessment of the factors that would likely be foremost in the minds of decisionmakers as they weighed the necessity, importance, risks, opportunities, consequences, and costs of intervening in a war to stop China from conquering Taiwan. Definitively capturing an understanding of such subjective factors as may be in the heads of individual policymakers at the time a crisis emerges is probably not possible in advance, given the variety of factors that could be in play and uncertainty about the specific individuals, their policy preferences, and their calculations about other policy issues at stake at that moment.

³¹ Michael R. Pompeo, *Taiwan’s Inauguration of Tsai Ing-wen*, U.S. Department of State, Washington, D.C., May 19, 2020.

³² Keoni Everington, “John Bolton Calls on U.S. to Give Diplomatic Recognition to Taiwan,” *Taiwan News*, April 16, 2020.

This section identifies seven factors likely to shape any U.S. response:³³ (1) the U.S. President and the President's key advisors' views and policy goals; (2) who is perceived to have started the conflict; (3) the state of U.S.–China relations at the time the crisis starts; (4) specific aspects of how China attacks Taiwan; (5) Taiwan's preparations for a conflict, will to fight, and ability to stay in a fight; (6) reactions from allies and partners, expectations of victory, and costs of winning; and (7) other scenarios in which the United States has recently been or is currently involved or to which it anticipates needing to respond.

Who Is the U.S. President, Who Are the President's Advisors, and What Policy Goals Does the Administration Hold?

As a starting point, one interviewee noted, “the President of the United States will make the call on whether or not the U.S. intervenes in response to any Chinese attack on Taiwan and is the ultimate decisionmaker. The President's key staff and advisors will also matter, since they will shape the President's understanding of the issue” as well as what is at stake.³⁴ “Attitudes among principles and deputies will be heavily shaped by how the conflict starts,” another expert commented (a point further developed in the next section).³⁵ The interviewees for this study, almost all of whom have extensive policy or operational experience in Asia, tended to express a fairly clustered set of views best summarized by one former high-ranking military officer, who commented that “if the PRC uses force to unify with Taiwan, it will be to the enormous detriment of U.S. global and regional commitments, interests, and influence, with implications far beyond Taiwan.”³⁶ Another interviewee cautioned, however, that “perceptions of Chinese determination—real or articulated—could shape U.S. policy elites' views, especially among

³³ The seven factors identified in this section are based on the answers provided during the interviews that the research team conducted for this study.

³⁴ Interview #15, former high-ranking U.S. government official, Washington, D.C., April 2020.

³⁵ Interview #11, former high-ranking U.S. government official, Washington, D.C., March 2020.

³⁶ Interview #20, former high-ranking U.S. military officer, Washington, D.C., March 2020.

political generalists not particularly committed to Taiwan or broader U.S.–Asia alliances. U.S. policymakers' knowledge of the PLA's commitment and abilities is very, very low. Some will hold misconceptions such as 'the PLA doesn't value life' or will pay any cost because the PRC's senior-most officials' lives and the regime's survival itself may be at stake."³⁷ Of concern, one interviewee commented, is the likelihood that "a lot of people have already decided that a war with China over Taiwan is 'unwinnable,'" a conclusion that may not be warranted but that would probably tamp down U.S. pressure to intervene.³⁸ In addition to the President's preexisting beliefs and the people surrounding the President, "the issues he or she was elected on will also shape how they respond," another interviewee noted.³⁹ Related to these, "the extent of polarization within the United States and what else is happening in American politics at the time" may affect any U.S. response, another interviewee pointed out.⁴⁰

The "classic starting point" for American administrations confronting a challenge such as a war in the Taiwan Strait would be to "identify U.S. objectives, the most common of which would be to maintain the status quo, seek to de-escalate, strive to maintain some sort of working relationship with China, and to defend Taiwan," one former high-ranking government official commented, noting that "different leaders will have different priorities [among those]."⁴¹ As another interviewee commented, senior U.S. government decisionmakers' concerns will likely center around "postconflict scenarios and how to tamp down escalatory pressures," which may lead to "a quest for alternative, nonfrontal approaches" to dealing with the emergence of conflict.⁴² "The drive to keep the conflict limited is very likely to trump

³⁷ Interview #17, former high-ranking U.S. government official, Washington, D.C., February 2020.

³⁸ Interview #5, U.S. government official, Washington, D.C., February 2020.

³⁹ Interview #16, U.S. Asia expert, Washington, D.C., February 2020.

⁴⁰ Interview #12, former high-ranking U.S. government official, Washington, D.C., February 2020.

⁴¹ Interview #2, former high-ranking U.S. government official, Washington, D.C., March 2020.

⁴² Interview #5, U.S. government official, Washington, D.C., February 2020.

those voices who say we should win by dramatic escalation and overmatch,” another former high-ranking official agreed, arguing that military actions that would likely look attractive would be those that would be of “limited scope, clear intent, and not hugely escalatory.”⁴³

How a Cross-Strait Conflict Starts and Who Is Perceived to Have Started It

A second set of issues likely to prove hugely consequential, as most interviewees agreed, is the circumstances under which a conflict begins, and who starts it. “Is it a bolt from the blue, or a slowly brewing crisis that gives the U.S. time to build up support for a reaction?” one asked.⁴⁴ As one expert reasoned, “Who is at fault? If this is a case of Chinese aggression, it would make a U.S. response more likely. If Taiwan is seen as having acted provocatively, that would make it less likely the U.S. would respond.”⁴⁵ While the question of how a conflict begins and who is seen to have lit the fuse may be important, not all interviewees agreed that it alone would be determinative of a U.S. response. As one former high-level U.S. government official interviewed for this study noted, “support in the U.S. for Taiwan is as strong as it has ever been . . . and views of China are evolving in light of Beijing’s actions in the South China Sea in ways that are shifting away from ‘Is defending Taiwan worth it?’ to a recognition that ‘This Asia’s Fulda Gap.’”⁴⁶ As another former government official stated, “I don’t think there’s any doubt we would intervene. There would be a debate, but it would be a short debate.”⁴⁷

⁴³ Interview #17, former high-ranking U.S. government official, Washington, D.C., February 2020.

⁴⁴ Interview #17, former high-ranking U.S. government official, Washington, D.C., February 2020.

⁴⁵ Interview #7, Congressional staffer, Washington, D.C., February 2020.

⁴⁶ Interview #10, former high-ranking U.S. government official, Washington, D.C., May 2020.

⁴⁷ Interview #9, former high-ranking U.S. government official, Washington, D.C., February 2020.

China—A “Bolt from the Red”?

In 2000, the PRC's Taiwan Affairs Office and the Information Office of the State Council issued a white paper on *The One-China Principle and the Taiwan Issue*, which specified the following:

[I]f a grave turn of events occurs leading to the separation of Taiwan from China in any name, or if Taiwan is invaded and occupied by foreign countries, or if the Taiwan authorities refuse, sine die, the peaceful settlement of cross-Straits reunification through negotiations, then the Chinese government will only be forced to adopt all drastic measures possible, including the use of force, to safeguard China's sovereignty and territorial integrity and fulfill the great cause of reunification.⁴⁸

Five years later, China's 2005 Anti-Secession Law further specified the conditions under which war would be unavoidable:

In the event that the “Taiwan independence” secessionist forces should act under any name or by any means to cause the fact of Taiwan's secession from China, or that major incidents entailing Taiwan's secession from China should occur, or that possibilities for a peaceful reunification should be completely exhausted, the state shall employ non-peaceful means and other necessary measures to protect China's sovereignty and territorial integrity.⁴⁹

Vague terms such as “a grave turn of events” or “major incidents entailing Taiwan's secession” give Beijing substantial wiggle room to attempt to characterize steps by the ROC government as having crossed its redlines in an effort to win the battle over global public opinion, sideline or hamstring U.S. determination and involvement, and undermine morale in Taiwan, core goals of China's “Three Warfares” approach to conflict.⁵⁰ Indeed, PRC strategic military culture paints China as always acting defensively, carries

⁴⁸ State Council Information Office, 2000.

⁴⁹ “Anti-Secession Law (Full Text),” 2005.

⁵⁰ Elsa B. Kania, “The PLA's Latest Strategic Thinking on the Three Warfares,” *China Brief*, Vol. 16, No. 13, August 22, 2016.

a heavy emphasis on deception and the role of information, and seeks to engage in psychological warfare.

As such, one interviewee noted, even if China has decided to initiate the conflict for its own reasons, it will employ a heavy dose of disinformation and messaging to “try to paint Taiwan as having provoked” the attack and will “mobilize agents of influence in an attempt to restrain the U.S. and its allies from responding. Controlling the narrative will be a top priority for China.”⁵¹ One possibility is that the PRC may even claim it is “intervening by invitation,” perhaps in response to an outbreak of real or manufactured political instability, one observer cautioned.⁵² Another expert agreed:

It could be hard to determine in practice who is to “blame,” since Beijing will surely claim it is the aggrieved party. They’ll publicly convey anger but privately may be communicating that things could still be put right through a limited show of force intended to extract concessions from Taiwan that is in actuality aimed at freezing the U.S. response so as to gain time and present us with a *fait accompli*. The PRC will claim it has been insulted, argue it has to respond to “domestic pressures,” and place the blame on Taiwan, all while trying to get fellow travelers in the U.S. and elsewhere to argue the importance of compromising to assuage China’s hurt feelings. There will be voices saying, “It will blow over; don’t make a mountain out of a molehill; the PRC can be satisfied; don’t create a self-fulfilling prophecy.” In fact, the real goal is to complicate any U.S. assessment of China’s ultimate intentions. Chinese decisionmakers know that in a crisis, the appetite of senior U.S. decisionmakers for raw intelligence will go up, and that will make them more susceptible to PRC disinformation that seasoned analysts would be more likely to recognize.⁵³

An ex-U.S. government official with high-level policy experience argued that this concern should not be overstated, however, asserting that “the U.S. can recognize actions that emanate from Taipei that would be provocative,”

⁵¹ Interview #1, U.S. think-tank analyst, Washington, D.C., March 2020.

⁵² Interview #2, former high-ranking U.S. government official, Washington, D.C., March 2020.

⁵³ Interview #18, U.S. government official, Washington, D.C., February 2020.

averring that if the real provocateur is Beijing, “we’ll know it when we see it.”⁵⁴ And if the conflict stems from outright PRC aggression, “then it’s a big deal, relating to the future of the region and U.S. commitments”—making American intervention far more likely, one expert commented.⁵⁵

Taiwan—A “Bolt from the Green”?

While noting that Taiwan’s current leader, President Tsai Ing-wen, has been a source of stability and that respect for Taiwan’s democratic transition and consolidation has dramatically changed U.S. thinking about the value of defending Taiwan (making it more likely), a number of interviewees nevertheless noted that if Taiwan was seen as having precipitated a crisis through highly risk-acceptant or reckless policy moves, this might reduce U.S. willingness to intervene. Many observers hearkened back to prior periods when the United States sought to restrain Taiwan from actions that Washington feared might lead to a war that it was not seeking, whether in the 1950s through the 1970s under the KMT⁵⁶ or more recently under the Democratic People’s Party. “When Chen Shui-bian was president from 2000 to 2008 we saw him as a frog on a lily pad,” one former high-ranking official commented, noting “he could jump in any direction without warning. That’s why when he passed through Hawaii in August 2004, we had Senator Daniel Inouye meet with him to convey a message that ‘You can’t be sure of the U.S. Senate’s response if you declare independence and that leads to a Chinese attack on Taiwan.’”⁵⁷ Another former high-ranking U.S. official brought up the same incident unprompted, noting that Sen. Inouye’s guidance was intended to clarify that, at least at that time, the U.S. policy of “strategic ambiguity” meant that America’s response to an attack on Taiwan was “situation dependent.”⁵⁸

⁵⁴ Interview #15, former U.S. government official, Washington, D.C., April 2020.

⁵⁵ Interview #11, former high-ranking U.S. government official, Washington, D.C., March 2020.

⁵⁶ Victor D. Cha, “Powerplay: Origins of the U.S. Alliance System in Asia,” *International Security*, Vol. 34, No. 3, Winter 2009/2010.

⁵⁷ Interview #3, former high-ranking U.S. government official, Washington, D.C., March 2020.

⁵⁸ Interview #10, former U.S. government official, Washington, D.C., May 2020.

In present-day circumstances, Vice President William Lai Ching-te's comments in 2019, in which he characterized himself as a "realistic worker for Taiwan independence," President Tsai's refusal to acknowledge the purported existence of a "1992 consensus," or "a statement that 'Taiwan is not part of China and never will be,'" as one interviewee commented, could be seen by Beijing as the kinds of remarks that foreclose hope for China of achieving unification with Taiwan by peaceful means and would justify a military response.⁵⁹ Of course, in 2006, Taiwan President Chen Shui-bian declared that "Taiwan is already an independent sovereign country and absolutely does not belong to the People's Republic of China," while, more recently, President Tsai stated that Taiwan doesn't "have a need to declare ourselves an independent state. . . . We are an independent country already and we call ourselves the Republic of China, Taiwan."⁶⁰ In light of these precedents, it may be the case that Taipei is unlikely ever to take a step that would give Beijing the ability to credibly paint it as having "provoked" an attack in such a way that the United States would simply stand back and take no action. Indeed, ROC Foreign Minister Wu has stated that, with respect to China's handling of Hong Kong, "We need to be extremely cautious . . . we need to . . . be very careful to avoid letting Taiwan become an excuse for China to declare war or engage militarily."⁶¹

Far more likely than Taiwan taking a step that would genuinely provoke Beijing such that Washington would feel absolved of any interest in Taiwan's continuing security or obligation to come to Taipei's defense is that Beijing would seek to *paint Taipei as having taken* such a step or steps. Beijing might act outraged over such events as the holding of a national referendum; the 2006 abolition of the National Unification Council and that body's guidelines on unification; Taipei's taking steps to revise the constitution,

⁵⁹ Ben Blanchard, "China Says Taiwan Courting 'Disaster' After Pre-Election Comment on Independence," Reuters, November 21, 2019; Interview #16, U.S. Asia expert, Washington, D.C., February 2020.

⁶⁰ Kathrin Hille, "Interview Transcript: Chen Shui-bian," *Financial Times*, November 2, 2006; "Taiwan Already 'Independent,' Tsai Warns China," *Taipei Times*, January 16, 2020.

⁶¹ Gerry Shih, "Taiwan Says Threat of Clash with China Is 'On the Rise,'" *Washington Post*, July 22, 2020.

change the national flag, and/or rename the country; the dropping of the ROC's claims to islands in the East or South China Sea; an attempt to join the United Nations under the name of "Taiwan"; or even U.S. arms sales to Taiwan and cite these as steps that force it to take action.⁶²

In short, while it is always possible that politicians in Taipei could recklessly gamble with the ROC's own security by taking some step that is highly likely to give Beijing an opening to launch an attack—perhaps presuming that U.S. commitments will deter or, if necessary, defeat any instance of PRC coercion—no interviewees seemed to regard this as likely. Furthermore, they all regarded Taiwan's security as being critically important to U.S. interests and national security, meaning that the question of who is to "blame" may matter less today than in years past.

The State of U.S.-China Relations

While some interviewees characterized a U.S. decision to intervene as at least highly likely if not virtually guaranteed, others saw it as less certain, pointing to the importance of the U.S.-China relationship as a key variable. "Without question it is one of the most ambiguous policy questions we face, and it will only be determined by the state of our relationship with the PRC at the moment a crisis breaks out. Our relationship with China is key," one interviewee declared.⁶³ One former high-level U.S. government official noted that "if U.S.-China ties are bad, American policymakers will conclude they may have less to lose, whereas if U.S.-China relations are going well, there will likely be a perception that cooperation on other issues of importance is at risk."⁶⁴ Another interviewee agreed, noting that the state of the U.S.-China relationship will be important not merely in terms of the equities the United States will perceive as being at stake but also because "the

⁶² Joseph Kahn, "Chinese Officers Warn That Taiwan Referendum Could Lead to War," *New York Times*, December 3, 2003; "Taiwan Leader Announces Termination of China Unification Body," *New York Times*, February 27, 2006; Michael Martina, "China Warns of War in Case of Moves Toward Taiwan Independence," *Reuters*, July 23, 2019.

⁶³ Interview #5, former U.S. government official, Washington, D.C., February 2020.

⁶⁴ Interview #15, former U.S. government official, Washington, D.C., April 2020.

nature of the U.S. relationship with the PRC will shape American receptivity to Chinese efforts to shape the narrative about the crisis.”⁶⁵

As former senior officials in the Obama administration Kurt Campbell and Ely Ratner have acknowledged, even prior to the arrival of the Trump administration, U.S. foreign and national security policy experts have been in the middle of a major rethink of how to handle relations with China.⁶⁶ Indeed, this rethink goes back to at least the mid-2010s,⁶⁷ though some have argued that it was actually reflective of trends that emerged in the immediate post-Cold War era.⁶⁸ Key defense policymakers from the Clinton, Bush 43, and Obama administrations, such as former Assistant Secretary of Defense for Asia-Pacific Security Affairs Joseph Nye, former National Security Council Senior Director for Asia-Pacific Affairs Michael Green, former Deputy National Security Advisor to Vice President Dick Cheney Aaron Friedberg, former National Security Council Senior Director for Asia-Pacific Affairs Jeffrey Bader, and former National Security Council Senior Director for Asia-Pacific Affairs Evan Medeiros, all described the effort to hedge against the possibility of an aggressive China as a key driver of U.S. policy since the mid- to late 1990s.⁶⁹ Still, others have argued that the state of U.S.–China relations should be irrelevant to any decision, argu-

⁶⁵ Interview #3, former high-ranking U.S. government official, Washington, D.C., March 2020.

⁶⁶ Kurt M. Campbell and Ely Ratner, “The China Reckoning: How Beijing Defied American Expectations,” *Foreign Affairs*, Vol. 97, No. 2, March/April 2018.

⁶⁷ Harry Harding, “Has U.S. China Policy Failed?” *Washington Quarterly*, Vol. 38, No. 3, Fall 2015; Robert D. Blackwill and Ashley J. Tellis, *Revising U.S. Grand Strategy Toward China*, New York: Council on Foreign Relations, 2015.

⁶⁸ Elsa B. Kania, “Not a ‘New Era’—Historical Memory and Continuities in U.S.-China Rivalry,” Center for a New American Security, May 7, 2019.

⁶⁹ Wang Jisi, J. Stapleton Roy, Aaron Friedberg, Thomas Christensen, Patricia Kim, Joseph S. Nye, Jr., Eric Li, Kurt M. Campbell, and Ely Ratner, “Did America Get China Wrong? The Engagement Debate,” *Foreign Affairs*, Vol. 97, No. 4, July/August 2018; Michael J. Green, *By More than Providence: Grand Strategy and American Power in the Asia-Pacific Since 1783*, New York: Columbia University Press, 2017; Jeffrey A. Bader, *Obama and China’s Rise: An Insider’s Account of America’s Asia Strategy*, Washington, D.C.: Brookings Institution Press, 2012; Evan S. Medeiros, “Strategic Hedging and the Future of Asia-Pacific Stability,” *Washington Quarterly*, Vol. 29, No. 1, Winter 2005–2006.

ing that “[insofar as is possible,] we should be looking to make this about the PRC’s coercion of Taiwan, not about the nature of China or U.S.-China relations.”⁷⁰

Specific Aspects of the Chinese Effort to Coerce or Attack Taiwan

How China prosecutes an attempt to coerce Taiwan may prove nearly as important as the U.S. perception of the causes of the crisis, the state of U.S.-China relations, and the apparent determination of the PLA to press forward. “The scale of activity matters a lot in what [the services] and INDOPACOM [the U.S. Indo-Pacific Command] will advise,” commented one former high-ranking military officer.⁷¹ Choices that the PRC leadership makes at the outset will potentially shape the U.S. response in very substantial ways. Key questions include whether China strikes at the United States or its Asian allies at the start of a conflict; whether it is attempting an amphibious assault and airborne invasion, a missile strike, or a blockade; and whether its actions hurt or kill Americans in Taiwan, as well as how it responds to the presence of U.S. nationals in China.

First, the PLA could start the conflict by trying to knock the United States out of the fight through a crippling strike on U.S. basing architecture and forces in the Indo-Pacific, hoping to replicate the Imperial Japanese strike on Pearl Harbor but with a different outcome. However, “if the U.S. gets cratered across Japan, we will have to get in,” one interviewee argued.⁷² Another expert agreed, commenting that “once U.S. bases in Japan or Guam are attacked, the U.S. would be in the fight 100 percent. Strikes on U.S. bases in Japan would degrade the U.S. ability to fight but probably not our will to do so, so long as we have other bases to operate from.”⁷³ China would “likely move to put [U.S. forces in] Korea at risk to lock them down there

⁷⁰ Interview #20, former high-ranking U.S. military officer, Washington, D.C., March 2020.

⁷¹ Interview #14, former high-ranking U.S. military officer, Washington, D.C., March 2020.

⁷² Interview #3, former high-ranking U.S. government official, Washington, D.C., March 2020.

⁷³ Interview #16, think-tank expert, Washington, D.C., February 2020.

and would try to freeze all other countries' participation, too, while simultaneously trying to complicate U.S. [force flow] crossing the Pacific," a former high-ranking U.S. military officer interviewed for this effort speculated.⁷⁴ "The PRC's efforts to [cultivate strategic ties with] South Pacific island nations means we may have to fight just to get to the fight," commented one interviewee.⁷⁵

Alternatively, China might decide to hold off on striking at U.S. forces in Japan or elsewhere, hoping to keep the United States on the sidelines, perhaps by messaging the United States that China's willingness to escalate is unlimited or by attempting to reassure the United States and Japan that Beijing's attempt to absorb Taiwan by force was simply the conclusion of the Chinese civil war and not an affair that foreign powers have any say in, nor one with any implications for the security of the broader Indo-Pacific region. "China is certainly thinking about how to keep Japan out of the fight with political warfare and warnings [that Japan will be struck if it intervenes or supports an American intervention]," one expert remarked, further noting that because China "doesn't have an appetite for risk of war with the U.S.," it may seek to constrain the United States by leveraging Japan against it.⁷⁶ Indeed, recent work by Hsiao has documented some of the dimensions of PRC influence operations in Japan, which are intended, through various contacts and engagements, to disincentivize Japan from supporting the United States or Taiwan.⁷⁷ Should Japan be persuaded to stay on the sidelines or even turned to pressuring the United States not to operate out of its facilities across the archipelago, U.S. efforts to come to Taiwan's aid in a timely fashion would be severely complicated.

Any U.S. response is also likely to be shaped by the overall character of the PRC's military operations. These could take the form of a cyber strike, an instance of gray zone coercion, the seizure of an offshore island, a missile

⁷⁴ Interview #20, former high-ranking U.S. military officer, Washington, D.C., March 2020.

⁷⁵ Interview #13, former high-ranking U.S. policymaker, Washington, D.C., March 2020.

⁷⁶ Interview #16, think-tank expert, Washington, D.C., February 2020.

⁷⁷ Russell Hsiao, "A Preliminary Survey of CCP Influence Operations in Japan," *China Brief*, Vol. 19, No. 12, June 26, 2019.

strike, a full-on airborne invasion and amphibious assault, or a blockade.⁷⁸ While the PLA's most likely approach, once it has been ordered to attack Taiwan, appears likely to many observers to be a large-scale assault designed to conquer Taiwan quickly before the United States can intervene, another possibility, as one interviewee commented, is that the PRC adopts a largely or fully nonkinetic approach in the belief that "if no Taiwanese blood has been shed, the U.S. will be loath to get involved."⁷⁹ For this reason, as another expert argued, "between an invasion and a blockade, the latter is both more likely and the bigger challenge."⁸⁰ Another commented that "an effective blockade would be very challenging, in part because it might be more difficult to identify the D-Day."⁸¹ Additionally, a PLA blockade would likely be a more "ambiguous, long-term conflict with no frontline. . . . It's a tougher question for U.S. policymakers because the costs appear to stretch out and the likelihood of success is unclear. Taiwan may not have capitulated in such a circumstance, but it also can't effectively defend itself," one former high-ranking policymaker noted.⁸² Indeed, this last point about Taiwan's role is a key one to highlight, since, as one interviewee noted, "the assumption most policymakers will have is that the U.S. is fighting in a supporting role," with Taiwan in the lead; if that's not the case, the appetite for what may appear to some as an open-ended commitment may be less clear.⁸³

A separate question is how the PRC treats Americans and others in Taiwan, as well as Americans in China at the start of any conflict. U.S. citizens in Taiwan could well be injured or killed by any Chinese assault, and Americans in China might be detained, treated roughly, or even taken hostage, something that the PRC has demonstrated a penchant for in recent

⁷⁸ Ian Easton, *The Chinese Invasion Threat: Taiwan's Defense and American Strategy in Asia*, Arlington, Va.: Project 2049 Institute, 2019.

⁷⁹ Interview #3, former high-ranking U.S. government official, Washington, D.C., March 2020.

⁸⁰ Interview #8, former high-ranking U.S. government official, Washington, D.C., February 2020.

⁸¹ Interview #5, U.S. government official, Washington, D.C., February 2020.

⁸² Interview #4, former high-ranking U.S. government official, Washington, D.C., February 2020.

⁸³ Interview #16, think-tank expert, Washington, D.C., February 2020.

years.⁸⁴ Even if the United States declined to intervene, it might seek to execute a noncombatant evacuation operation (NEO); how China would respond to such an effort by the United States remains an open question.⁸⁵

Taiwan's Preparations for Conflict, Will to Fight, and Ability to Stay in the Fight

Many observers regard Taiwan's steps to maintain and further develop its ability to resist Chinese coercion as a highly consequential factor for U.S. intervention. Because China has threatened Taiwan for more than seven decades, a Chinese attack has long been the canonical scenario Taiwan plans for, and if Taipei's defenses are perceived as insufficient or as crumbling early, this could undermine or erode U.S. willingness to intervene on its behalf, several interviewees warned. On the other hand, a Taiwan that has been investing in its military, is resolute in its own defense, and is calling out to the free world to come to its aid will be much more likely to elicit support from the United States.

In her first term (2016–2020), ROC President Tsai Ing-wen focused on shifting Taiwan's defense strategy in the direction of asymmetry and deterrence through force preservation, aiming to move toward agility, resilience, and persistent lethality so as to resist and contest a PRC assault for as long as possible under a new Overall Defense Concept.⁸⁶ Such moves are in basic alignment with recommendations that a number of U.S. defense analysts have made to Taiwan to counter the PLA's advancing capabilities.⁸⁷

⁸⁴ Anatol Klass, "Michael Kovrig, Michael Spavor, and China's History of Hostage Diplomacy," *SupChina*, July 9, 2020; United States Embassy in China, "Security Alert: Heightened Risk of Arbitrary Detention," July 17, 2020.

⁸⁵ Interview #6B, U.S. Asia expert, Washington, D.C., February 2020.

⁸⁶ Drew Thompson, "Hope on the Horizon: Taiwan's Radical New Defense Concept," *War on the Rocks*, October 2, 2018.

⁸⁷ William S. Murray, "Revisiting Taiwan's Defense Strategy," *Naval War College Review*, Vol. 61, No. 3, Summer 2008; Jim Thomas, John Stillion, and Iskander Rehman, *Hard ROC 2.0: Taiwan and Deterrence Through Protraction*, Washington, D.C.: Center for Strategic and Budgetary Assessments, 2014; Michael J. Lostumbo, David R. Frelinger, James Williams, and Barry Wilson, *Air Defense Options for Taiwan: An Assessment of Relative Costs and Operational Benefits*, Santa Monica, Calif.: RAND Corporation, RR-1051-OSD, 2016.

In her second inaugural speech in May 2020, President Tsai emphasized several further planned transformations, including increasing emphasis on reform of Taiwan's reserve forces (another shift that external observers had recommended),⁸⁸ and these are worth quoting at length here:

We have three important directions for our national defense reforms.

First is accelerating the development of our asymmetrical capabilities. While we work to bolster our defense capabilities, future combat capacity development will also emphasize mobility, countermeasures, and non-traditional asymmetrical capabilities. We will also work to strengthen our defenses against the threats of cyber warfare, cognitive warfare, and "unrestricted" warfare to achieve our strategic goal of multidomain deterrence.

The second is substantive reforms to our military reserve and mobilization systems. We need to enhance the quality of our reserve forces, as well as their weapons, equipment, and training, in order to achieve effective jointness with our regular forces. We also need to establish a standing, interdepartmental system connecting our reserve and mobilization systems. This system will help coordinate personnel and supplies, so that we can successfully mobilize during a transition from peacetime to war.

Third is improvements to our military's management institutions. Today's young servicemembers have all grown up in a democratic society, and one of our most important missions will be to find ways for them to better utilize their professional skills in line with military needs. Some young servicemembers have difficulties adjusting to military needs, reflecting the gap between today's society and our military management institutions. We need to work to close that gap. We need to reduce negative societal views of the military and end the gradual erosion of our military's prestige and morale due to individual incidents caused by imperfect institutions. Thus, we will improve appeal and counseling mechanisms within the military, establish a fair and equitable incident investigation mechanism, and regularly evaluate personnel placements. In terms of education and training, we will strengthen

⁸⁸ Ian Easton, Mark Stokes, Cortez A. Cooper, and Arthur Chan, *Transformation of Taiwan's Reserve Force*, Santa Monica, Calif.: RAND Corporation, RR-1757-OSD, 2017.

leadership capacities across all levels of leadership and foster a modern management system that emphasizes professionalism.⁸⁹

These moves, if fully executed as described, should have the effect of further enhancing Taiwan's deterrence and defense capabilities. Importantly, Taiwan's willingness to fight probably cannot be treated as an entirely autonomous variable, since it "will likely be shaped by its perception of the U.S. willingness to come to its aid," one interviewee noted.⁹⁰ If the United States were to signal that it was staying out, morale among Taiwan's defenders might collapse, and the populace could lose hope that it would be able to hold off a PRC invasion or attempt to absorb the island by force.

One option might be for the United States to work with Taiwan early to deter or defeat an attack. The U.S. response in an emerging contingency is "not likely to be fast," one former high-ranking U.S. policymaker argued, "unless State declares a NEO."⁹¹ A government official warned, "Policy coordination with Taiwan is likely to be limited at best."⁹² "The U.S. might seek to move forces into Taiwan if we determined that the China threat was too great and unavoidable," a former high-ranking U.S. military officer speculated. "The U.S. may need to relook at the issue of relations with Taiwan in order to deter China."⁹³

For some observers, the question of Taiwan's will to fight is something of a distraction, possibly even a deliberate element of PRC psychological and political warfare. "Will to fight wasn't an issue in 1950 in Korea, and it wasn't an issue for Taiwan in 1954, 1958, or 1995–1996," one interviewee commented; "the bigger issue will be 'this is about China.'"⁹⁴ "Taiwan 'will

⁸⁹ "Full Text of Taiwan President Tsai Ing-wen's Second-Term Inaugural Address," *Focus Taiwan*, May 20, 2020.

⁹⁰ Interview #3, former high-ranking U.S. government official, Washington, D.C., March 2020.

⁹¹ Interview #13, former high-ranking U.S. government official, Washington, D.C., March 2020.

⁹² Interview #18, U.S. government official, Washington, D.C., February 2020.

⁹³ Interview #14, former high-ranking U.S. military officer, Washington, D.C., March 2020.

⁹⁴ Interview #5, U.S. government official, Washington, D.C., February 2020.

to fight' is a CCP talking point as much as a real thing," another former high-ranking official opined.⁹⁵ For others, the issue of will to fight is a real consideration. "Look, will to fight was even important in the U.S. decision to back the Brits against the Nazi invasion," one expert argued.⁹⁶ Taiwan's will to fight will be an important component for mobilizing U.S. domestic political support too. "Taiwan's willingness to fight will shape how a U.S. administration justifies intervening to Congress and the American people. It will require assessments about the impact of the fall of Taiwan on the national security of the U.S. and its allies, as well as a calculation about moral issues. U.S. intervention becomes more likely if the battle to defend Taiwan is framed as being about great power competition and the future of U.S. posture in Asia."⁹⁷

Several interviewees mentioned the U.S. response in 1990 when Iraq invaded Kuwait as a precedent that may weigh on policymakers' minds. When the United States intervened in defense of Kuwait, no one asked about how hard the Kuwaitis were fighting, several interviewees noted, but that was because, as one put it, "there was no expectation that they would be able to resist. By contrast, we've been working with Taiwan for 70 years to prepare for this, and in this case it's about the people of Taiwan, not [the Saudi] oil [that was the lifeblood of the American economy at the time]."⁹⁸ Indeed, another argued, "in Kuwait we were unquestionably 'the big dog' and there was a compelling economic driver in the form of Saddam's threat to the Saudi oil fields; this wasn't just about a philosophical or values proposition."⁹⁹

In explaining why Taiwan demonstrating its own commitment to its defense is important, another expert pointed out that "we don't fight all aggression . . . we didn't intervene in South Ossetia, or in Hungary in 1956

⁹⁵ Interview #10, former high-ranking U.S. government official, Washington, D.C., May 2020.

⁹⁶ Interview #1, U.S. Asia expert, Washington, D.C., March 2020.

⁹⁷ Interview #19, U.S. Asia expert, Washington, D.C., March 2020.

⁹⁸ Interview #6A, U.S. Asia expert, Washington, D.C., February 2020.

⁹⁹ Interview #14, former high-ranking U.S. military officer, Washington, D.C., March 2020.

or Czechoslovakia in 1968.”¹⁰⁰ As another noted, “we didn’t dive into war in 1990 over Kuwait, and we didn’t start a conflict when Russia invaded Crimea,” so it will be critically important for Taiwan to be ready to fight and hold out for some time.¹⁰¹ To move the United States to act, another interviewee noted, it may be important to recognize that an important factor is not just Taiwan’s will to fight but “images of how China is fighting, especially if there are large numbers of civilian casualties in Taiwan,” as this would make it much more likely for the United States to intervene.¹⁰²

To get in and stay in despite the near certainty of high casualties in a conflict with China, the American people will need to understand and support the mission—and seeing Taiwanese spending money, preparing their defenses, and ultimately fighting for their freedom will be critical to that.¹⁰³ For this reason, senior DoD officials have frequently urged Taiwan both to spend more and to procure more cost-effective military hardware.¹⁰⁴ If the U.S. public does not have a clear understanding of the reasons for American military intervention or a strong sense that American efforts are being matched by local forces who are fighting for their own freedom in a struggle that bears on U.S. national interests, “that’s when you get a rapid collapse in support after casualties are incurred, like the withdrawal after the U.S. Marine barracks was bombed in Lebanon in 1983 or after the ‘Blackhawk Down’ incident in Somalia.”¹⁰⁵

¹⁰⁰ Interview #4, former high-ranking U.S. government official, Washington, D.C., April 2020.

¹⁰¹ Interview #5, U.S. government official, Washington, D.C., February 2020.

¹⁰² Interview #2, former high-ranking U.S. government official, Washington, D.C., March 2020.

¹⁰³ Grant Newsham, “Taiwan’s Tightwad Defense Spending an Expensive Risk,” *Asia Times*, July 17, 2020.

¹⁰⁴ Rosie Perper, “A Pentagon Official Is Urging Taiwan to Spend More on a Modern Military in Light of China’s ‘Increasing Frequency and Scale of Activity,’” *Business Insider*, November 1, 2018; Chiang Chin-yeh and Chiang Yi-ching, “U.S. Official Suggests Taiwan Pursue More ‘Cost-Effective’ Weapons,” *FocusTaiwan*, October 9, 2019.

¹⁰⁵ Interview #13, former high-ranking U.S. military officer, Washington, D.C., March 2020.

Once a conflict starts, the clock will be ticking for the United States to ready its forces, move to contact, and begin attempting to defeat a PLA assault. "The logistics requirements for the U.S. in such a conflict are even more challenging than the 'out-stick' problem [of PLA weapons having longer ranges than U.S. weapons]," one former high-ranking military officer commented, asking, "Where do you replenish missiles [on aircraft, surface ships] and submarines? . . . The distances involved and the time required for arrival on station are just very, very significant. The U.S. would be stressed to support high-tempo military operations—not even combat—around Taiwan."¹⁰⁶ For this reason, Taiwan will need to hold out as long as it can to buy U.S. forces time to reach the theater of combat.

Once they do, however, one observer speculated that "the U.S. military will want ROC forces to get out of the way."¹⁰⁷ A former high-ranking U.S. military officer characterized things slightly differently, arguing that Taiwan could make valuable contributions in terms of helping "defeat the amphibious invasion in depth, avoiding mainland strikes, and defeating the PLA in transit and the air assault."¹⁰⁸ Avoiding "green on blue" (Taiwanese forces hitting U.S. platforms) or "blue on green" (U.S. strikes inadvertently hitting Taiwan forces) violence will be complicated, given different systems and an inability to train and exercise together.

Should Taiwan's will or ability to mount an organized resistance collapse, would the United States be out of options? "The PLA's winning strategy is to present the U.S. with a *fait accompli*, not to inflict so much pain that the U.S. backs down," one expert commented, arguing that "if China has achieved a *fait accompli*, then the war is virtually over [before the United States can even get to the fight]."¹⁰⁹ "A *fait accompli* would be very hard to counter," another specialist agreed, arguing that "we need a voice from

¹⁰⁶ Interview #14, former high-ranking U.S. military officer, Washington, D.C., March 2020.

¹⁰⁷ Interview #6B, U.S. Asia expert, Washington, D.C., February 2020.

¹⁰⁸ Interview #20, former high-ranking U.S. military officer, Washington, D.C., March 2020.

¹⁰⁹ Interview #17, former high-ranking U.S. government official, Washington, D.C., February 2020.

within Taiwan who can credibly say ‘we need you to come.’”¹¹⁰ “Obviously, if Taiwan’s resistance collapses during a conflict, that complicates things enormously, but it doesn’t necessarily mean we wouldn’t continue to fight on,” one interviewee remarked.¹¹¹ “Liberating Taiwan is a possible scenario,” another expert agreed, but cautioning that while it may not be off-limits “it would be hard to sell.”¹¹² One of the main challenges of such a situation, however, would be that “if the PRC has put a puppet regime in place that is actively asking the U.S. to stay out and proclaiming ‘peace,’ it would make liberating the island much harder. In addition, the PLA would now gain all the geographic advantages [of Taiwan’s challenging terrain and built environment] that it had just overcome.”¹¹³ Still, if Taiwan’s defenders have been routed at the beaches and have taken to the mountains and urban centers, there are other options available if organized large-scale resistance by the ROC government and military has collapsed.¹¹⁴

The interactive nature of Taiwan’s defenders’ willingness and ability to resist and the U.S. response was further highlighted by another interviewee, who pointed out that “if the U.S. assesses that it has . . . time to prepare its response because Taiwan has adopted an effective defense strategy that can hold the PLA at bay, then [intervention becomes more likely]; if Taiwan looks like it will be overrun quickly, then the U.S. might not be able to stop the PLA’s assault and might decline to intervene, as it will be too costly or difficult to succeed. How long we have will also shape how we message the Japanese and other allies.”¹¹⁵ For such reasons, Taiwan’s will and ability to resist will likely constitute a key factor in how U.S. decisionmakers assess the feasibility of U.S. intervention; strengthening Taiwan’s ability to deter

¹¹⁰ Interview #16, U.S. Asia expert, Washington, D.C., February 2020.

¹¹¹ Interview #5, U.S. government official, Washington, D.C., February 2020.

¹¹² Interview #19, U.S. Asia expert, Washington, D.C., March 2020.

¹¹³ Interview #9, former U.S. government official, Washington, D.C., February 2020.

¹¹⁴ Interview #13, former high-ranking U.S. government official, Washington, D.C., March 2020.

¹¹⁵ Interview #11, former high-ranking U.S. government official, Washington, D.C., March 2020.

and defend itself and to work with U.S. forces en route to the theater should therefore be primary goals for U.S. policy.

Reactions of U.S. Allies and Partners, Especially Japan

Collectively, U.S. allies and partners will form an important audience for, and source of support for or opposition to, any U.S. effort to intervene on Taiwan's behalf. Among these, no ally or partner will be of greater importance than Japan, given its proximity to Taiwan and its role as the cornerstone of U.S. force posture in the Indo-Pacific.¹¹⁶ "Most allies will likely wait to see our reaction, and then we'll try to sell them [on supporting the U.S. position]," another interviewee commented, arguing that while this would likely be true for Japan and the Philippines, it would be "doubly so for Europe, the NATO allies, and Australia."¹¹⁷ There will likely be a "dynamic process of eliciting allied cooperation . . . [but] once the President decides, we will message the allies," noted one former high-ranking official.¹¹⁸

Given prior U.S.-Japan documents reassuring Tokyo that Washington must engage in "prior consultation" before initiating any combat operations from Japanese soil, Japan's role could prove critical as an enabler of or constraint on the U.S. ability to respond in a timely fashion.¹¹⁹ "If we want off-ramps, we'll have to move to put skin in the game, and that means moving early and fast with a plan that will convince hedgers that we'll be there [when the chips are down]," one interviewee remarked, commenting further that "for a long period of time at the start, we'll have to fight with what we already have in theater," which means that being in sync with Japan and

¹¹⁶ Patrick M. Cronin, *The Cornerstone and the Linchpin: Securing America's Northeast Asian Allies*, Washington, D.C.: Hudson Institute, October 17, 2019.

¹¹⁷ Interview #5, U.S. government official, Washington, D.C., February 2020.

¹¹⁸ Interview #4, former high-ranking U.S. government official, Washington, D.C., March 2020.

¹¹⁹ For the source of the right to prior consultation, see *Description of Consultation Arrangements Under the Treaty of Mutual Cooperation and Security with Japan*, prepared for Secretary of State Christian Herter, June 1, 1960 (via National Archives website).

having joint U.S.–Japan bases would be important.¹²⁰ On the other hand, “if these questions with Japan haven’t been sorted out beforehand, we’re in trouble because Japan doesn’t move quickly,” one expert commented.¹²¹

One former senior U.S. official averred, however, that “I don’t think China can attack Taiwan without attacking Japan, and Tokyo recognizes Taiwan is critical to Japan’s security.”¹²² Another expert agreed, stating that “[for Japan] the loss of Taiwan is almost like losing part of your own territory . . . you’re next.”¹²³ Moreover, “Tokyo is unlikely to be passive [because] if [it] blocked U.S. operations out of Japan that would likely be the end of the alliance.”¹²⁴ Recognizing this, “the PRC probably doesn’t have confidence in its ability to neutralize Japan politically,” one interviewee remarked.¹²⁵

“Senior U.S. officials will be telling the Japanese what we’re going to do and seeking their support, not asking a ‘mother-may-I?’” asserted one former high-ranking U.S. official.¹²⁶ “Getting better aligned with Japan . . . would make a U.S. response both more likely and more effective.”¹²⁷ A number of policy papers written by leading U.S. policy analysts and former senior officials have advised steps along these or similar lines.¹²⁸

¹²⁰ Interview #13, former high-ranking U.S. government official, Washington, D.C., March 2020.

¹²¹ Interview #19, U.S. Asia expert, Washington, D.C., March 2020.

¹²² Interview #13, former high-ranking U.S. government official, Washington, D.C., March 2020.

¹²³ Interview #1, U.S. Asia expert, Washington, D.C., March 2020.

¹²⁴ Interview #15, former high-ranking U.S. government official, Washington, D.C., April 2020.

¹²⁵ Interview #12, former high-ranking U.S. government official, Washington, D.C., February 2020.

¹²⁶ Interview #3, former high-ranking U.S. government official, Washington, D.C., March 2020.

¹²⁷ Interview #13, former high-ranking U.S. government official, Washington, D.C., March 2020.

¹²⁸ Dennis C. Blair, *Assertive Engagement: An Updated U.S.-Japan Strategy for China*, Washington, D.C.: Sasakawa Peace Foundation USA, 2016; Michael J. Green, Matthew P. Goodman, Richard L. Armitage, Joseph S. Nye, Jr., and Victor Cha, *More Important*

Indeed, as one interviewee said, “no other allies matter much for anything other than public diplomacy,” since operationally they would have little to contribute to an actual military response, though another interviewee commented that there may be “allies and partners we need buy-in from in terms of diplomatic support, facilities access, sustainment, or logistics support.”¹²⁹ Quite apart from any operationally relevant contributions they might make, U.S. allies will likely be watching closely to see whether Washington’s reaction matches their expectations and what signals it may send about U.S. credibility and reliability in a crisis, one interviewee noted, pointing specifically to Japan and South Korea.¹³⁰

As a different interviewee commented, “the views of allies may be irrelevant to the go/no-go decision but hugely relevant for ‘how you go.’”¹³¹ Indeed, “none of the other allies [other than Japan] matter for the military or political response,” said one expert, who worried that “Japan is likely to be in it until it hurts, and it will hurt early. The question then is if they have enough will to stay in it. There’s no world in which the U.S. cedes the field if . . . U.S. bases in Japan [get hit], and the bases in Japan will get hit.”¹³² The United States will likely try to pull together a coalition to respond—although, other than Japan, the majority of the countries contribute little more than political or diplomatic support, or at most intelligence, access, and overflight; the “will to fight in the coalition will be a target of the PRC and a challenge for the U.S.”¹³³

than Ever: Renewing the U.S.-Japan Alliance for the 21st Century, Washington, D.C.: Center for Strategic and International Studies, 2018.

¹²⁹ Interview #11, former high-ranking U.S. government official, Washington, D.C., March 2020; Interview #19, U.S. Asia expert, Washington, D.C., March 23, 2020.

¹³⁰ Interview #15, former high-ranking U.S. government official, Washington, D.C., April 2020.

¹³¹ Interview #2, former high-ranking U.S. government official, Washington, D.C., March 2020.

¹³² Interview #9, former U.S. government official, Washington, D.C., February 2020.

¹³³ Interview #20, former U.S. military officer, Washington, D.C., March 2020.

Assessments of U.S. Likelihood of Victory and the Cost of “Winning”

A U.S.-China war over Taiwan seems highly likely to be a large-scale event with substantial and wide-ranging long-term consequences; indeed, as one prominent analysis characterized such a conflict, it would be “a war like no other.”¹³⁴ One former high-ranking U.S. military officer whom we spoke with commented that “U.S. losses in a war with China would dwarf anything America has seen since World War II.”¹³⁵ A key factor sure to figure in policy discussions surrounding a decision to enter the conflict will be “can we defeat China’s concept of operations?”¹³⁶ As another expert we consulted commented, “the further it strays from a ‘slam dunk,’ the more cautious everyone will be.”¹³⁷ A separate but related question, a leading U.S. Asia policy expert and former high-ranking government official whom we spoke with noted, would be the likely economic impact of a war with China, both in terms of the costs for waging the conflict and in terms of its impact on the global economy.¹³⁸

What Other Crises Are the United States Already Dealing with or Anticipating?

A final factor that could shape any U.S. response would likely be what else is happening in the world, especially with respect to North Korea, Iran, or Russia, or whether the United States has recently fought any wars that have made the American populace exhausted or especially cautious.¹³⁹ “Iran would definitely move on the Strait of Hormuz,” one interviewee remarked,

¹³⁴ Richard C. Bush and Michael E. O’Hanlon, *A War Like No Other: The Truth About China’s Challenge to America*, Hoboken, N.J.: Wiley, 2007.

¹³⁵ Interview #14, former high-ranking U.S. military officer, Washington, D.C., March 2020.

¹³⁶ Interview #19, U.S. Asia expert, Washington, D.C., March 2020.

¹³⁷ Interview #6A, U.S. Asia expert, Washington, D.C., February 2020.

¹³⁸ Interview #12, former high-ranking U.S. government official, Washington, D.C., February 2020.

¹³⁹ Interviews #6A and #6B, U.S. Asia experts, Washington, D.C., February 2020.

and “Russian and North Korean actions cannot be discounted.”¹⁴⁰ “Other theaters will continue to suck resources away,” one former government official observed—a view another former official echoed, arguing that such a conflict would test the proposition “Is Asia really the No. 1 theater? Preexisting conditions, such as a confrontation with Russia over Europe, could really complicate the U.S. response, maybe even to the point of forcing the U.S. to choose between Europe and Asia.”¹⁴¹

Factors Driving Escalation for the United States

If the United States does intervene to assist Taiwan in resisting an attack by China, U.S. policymakers and commanders will face a number of response options and escalation branch points; so, too, will PLA decisionmakers and warfighters, and the ultimate decisions the two sides make are likely to be a function of the actions, taken and anticipated, by the other side, as well as potential third actors such as Taiwan or Japan. Any U.S. military assistance to Taiwan’s defense could vary with respect to timing; questions about approach; level of effort; scale, escalation, and protraction; geographic scope; issues of domain; and trade-offs with other theaters.

Timing

Among the many comments that our interviewees provided, there was uniform agreement with a sentiment best expressed by a respondent who noted, “the real branch point is before Americans get killed. Once our people are dying, we’re in.”¹⁴² “The PLA’s key question is: Is the U.S. going to intervene? Once they conclude we are, that’s when they’ll hit us.”¹⁴³ There was also general, if not complete, agreement on the importance of making an early, robust response, with one interviewee remarking that “having made a deci-

¹⁴⁰ Interview #20, former high-ranking U.S. military officer, Washington, D.C., March 2020.

¹⁴¹ Interview #9, former U.S. government official, Washington, D.C., February 2020; Interview #4, former high-ranking U.S. government official, Washington, D.C., April 2020.

¹⁴² Interview #1, U.S. Asia expert, Washington, D.C., March 2020.

¹⁴³ Interview #18, U.S. government official, Washington, D.C., February 2020.

sion to go to war over Taiwan, it's unlikely that Chinese leaders will take any off-ramps," for which reason it will likely be important for the United States to "go early and go fast or else the PRC is likely to win."¹⁴⁴ "The first phase of any fight with China over Taiwan has to be extremely damaging. The PLA has pride, but no experience of losses. The U.S. aim should be to knock them out of the fight early; 'wading into it' is not a war-winning strategy."¹⁴⁵

A variant on the questions of time and timing was provided by a former high-ranking U.S. official who commented that "a lot will depend on how far along we are with force realignment [in the Indo-Pacific] and how far China has gotten with its military modernization and reform [efforts]. And we expect to have the advantage in a longer fight because China can only use its ballistic missiles once."¹⁴⁶

Approach

The approach, or military CONOP, that the United States chooses to employ will be another key question that decisionmakers and military leaders will have to engage with. U.S. military analysts and policy experts have debated this question extensively in recent years, especially since the articulation of the earliest unofficial versions of the AirSea Battle Concept began to be debated in 2010 following the publication of a study on that topic by the Center for Strategic and Budgetary Assessments.¹⁴⁷ Critics of the concept argued that its willingness to contemplate kinetic strikes on the Chinese homeland would be unnecessarily risk-acceptant; would require the development of expensive military capabilities that would be of limited utility in other arenas; and would muddle the issue of de-escalation and war-termination by holding the Chinese homeland and CCP's control on power

¹⁴⁴ Interview #15, former high-ranking U.S. government official, Washington, D.C., April 2020.

¹⁴⁵ Interview #14, former high-ranking U.S. military officer, Washington, D.C., March 2020.

¹⁴⁶ Interview #4, former high-ranking U.S. government official, Washington, D.C., April 2020.

¹⁴⁷ Van Tol et al., 2010.

at direct risk.¹⁴⁸ In its place, observers have argued for alternative concepts such as “off-shore control,” “distant blockade,” “archipelagic defense,” and “active denial,” among others, all of which aim to impose costs on China’s leadership, economy, and military without directly striking the PRC homeland; instead, these notions tend to focus on attriting PLA forces once they have departed their air and sea points of disembarkation, sometimes by emplacing land-based, anti-ship cruise missiles around the region.¹⁴⁹

Other analysts have argued that it will be impossible to deter or defeat PRC aggression without access to a *direct defense* model of large-scale, high-end capabilities present in or near the theater of battle, and although avoiding escalatory mainland strikes is attractive—and, in practice, such operations may not be the most directly relevant to defeating the PLA—it may be worthwhile retaining the option to carry out such attacks if need be.¹⁵⁰ The PLA’s goal, one expert commented, will be to either “attempt a *fait accompli* or force us to fight our way in, so we need to have forces in the theater.”¹⁵¹ The United States “might seek to put pressure on China’s energy supply

¹⁴⁸ Aaron L. Friedberg, *Beyond Air-Sea Battle: The Debate over U.S. Military Strategy in Asia*, New York: Routledge, 2014; David Gompert and Terrence Kelly, “Escalation Cause: How the Pentagon’s New Strategy Could Trigger War with China,” *Foreign Policy*, August 3, 2013.

¹⁴⁹ T. X. Hammes, “Offshore Control Is the Answer,” *Proceedings*, December 2012; Sean Mirski, “Stranglehold: The Context, Conduct and Consequences of an American Naval Blockade of China,” *Journal of Strategic Studies*, Vol. 36, No. 3, 2013; Andrew F. Krepinevich, Jr., “How to Deter China: The Case for Archipelagic Defense,” *Foreign Affairs*, Vol. 94, No. 2, March/April 2015; Eric Heginbotham and Jacob L. Heim, “Deterring Without Dominance: Discouraging Chinese Adventurism Under Austerity,” *Washington Quarterly*, Vol. 38, No. 1, 2015; Terrence Kelly, Anthony Adler, Todd Nichols, and Lloyd Thrall, *Employing Land-Based Anti-Ship Cruise Missiles in the Western Pacific*, Santa Monica, Calif.: RAND Corporation, TR-1321-A, 2012.

¹⁵⁰ David Ochmanek, *Sustaining U.S. Leadership in the Asia-Pacific Region: Why a Strategy of Direct Defense Against Antiaccess and Area Denial Threats Is Desirable and Feasible*, Santa Monica, Calif.: RAND Corporation, PE-142-OSD, 2015.

¹⁵¹ Interview #4, former high-ranking U.S. government official, Washington, D.C., April 2020.

chains from the Middle East via a distant blockade,” one interviewee noted, but “this would take resources away from the direct defense of Taiwan.”¹⁵²

Indeed, another interviewee asserted that “we would try to stop the PLA as they cross the Strait.”¹⁵³ A third interviewee with experience in senior military roles agreed that “there will be great reluctance in senior U.S. policymaking circles with regard to [a more aggressive course of action], though the PLA probably expects it.”¹⁵⁴ Still, as one PLA expert consulted for this study commented, “China is not likely to respect any ‘redlines’ with regard to not attacking Guam [as U.S. territory] or our satellite infrastructure.”¹⁵⁵ “Guam is probably less escalatory than a strike on Japan,” another interviewee commented.¹⁵⁶

China’s success in executing its initial plan of attack could matter a great deal. “If the PLA show enormous competence at joint force power projection, that could lead the U.S. to conclude that its options are either to go big or go home,” one expert remarked.¹⁵⁷ Another expert agreed, commenting that “the extent of the military capabilities the PLA needs to employ will matter a lot. Is the PLA’s attack plan resilient? Are we exquisitely vulnerable to PLA targeting?”¹⁵⁸ Indeed, the effectiveness of any U.S. response could be challenged early on, something U.S. planners, policymakers, and the general public will need to be prepared for. “If it becomes clear early on that we cannot execute the mission because our ships are being sunk and our aircraft are being shot down, then we would probably rethink our involvement,” one interviewee conceded.¹⁵⁹ Another respondent disagreed, how-

¹⁵² Interview #14, former high-ranking U.S. military officer, Washington, D.C., March 2020.

¹⁵³ Interview #5, U.S. government official, Washington, D.C., February 2020.

¹⁵⁴ Interview #14, former high-ranking U.S. military officer, Washington, D.C., March 2020.

¹⁵⁵ Interview #9, former U.S. government official, Washington, D.C., February 2020.

¹⁵⁶ Interview #5, U.S. government official, Washington, D.C., February 2020.

¹⁵⁷ Interview #6B, U.S. Asia expert, Washington, D.C., February 2020.

¹⁵⁸ Interview #11, former high-ranking U.S. government official, Washington, D.C., March 2020.

¹⁵⁹ Interview #16, U.S. Asia expert, Washington, D.C., February 2020.

ever, arguing that “the U.S. will not back down if our CONOP isn’t working; we would adjust under fire and develop a new CONOP.”¹⁶⁰

Level of Effort

Some will argue for intervening in a way that is “big, fast, and early to wrap up quickly and prevent a *fait accompli*—and that’s the approach I favor,” one interviewee stated, while noting that “others will argue ‘that’s escalatory and China will see it as the U.S. trying to break Taiwan off.’”¹⁶¹ “[My fear is that] the U.S. won’t be willing to resource this to the maximum until the PLA starts kicking our butts, and then it’s going to take months [to get up to full wartime mobilization], but we probably won’t really go all in until we get hit,” an expert commented.¹⁶² “Going in hard, high, and early would work best,” another interviewee commented, noting that a response that is more gradual and attenuated is unlikely to work well.¹⁶³ Echoing this view, a former U.S. official stated that “if the U.S. President decides to intervene, the U.S. will need to be prepared to go all the way. There will be no halfway measures that will work and no victory on the cheap. The U.S. will need to go early and fast or else the PRC will likely win.”¹⁶⁴ “Once you’ve committed, you’ve got to fight with 120 percent of the forces you’ve committed.”¹⁶⁵

At the same time, some U.S. policymakers may be tempted to “spend a lot of time looking for a cheap ‘out,’ the net effect of which would be to put U.S. forces in harm’s way and potentially lead to a situation of very heavy early losses and an outcome where, when we finally commit, it’s ‘too little, too late,’” one former government official warned.¹⁶⁶ “The U.S. military will

¹⁶⁰ Interview #9, former U.S. government official, Washington, D.C., February 2020.

¹⁶¹ Interview #4, former high-ranking U.S. government official, Washington, D.C., April 2020.

¹⁶² Interview #9, former U.S. government official, Washington, D.C., February 2020.

¹⁶³ Interview #3, former high-ranking U.S. government official, Washington, D.C., March 2020.

¹⁶⁴ Interview #15, former high-ranking U.S. government official, Washington, D.C., April 2020.

¹⁶⁵ Interview #20, former high-ranking U.S. military officer, Washington, D.C., March 2020.

¹⁶⁶ Interview #9, former U.S. government official, Washington, D.C., February 2020.

advise that a show of force is not enough, but some in the U.S. [policymaking community] may still argue for it as a way to try to compel de-escalation, or that by putting enough forces in it will serve to prepare for the bigger force that's [actually] needed."¹⁶⁷

Another ex-U.S. policymaker speculated that some policymakers may feel tempted to look for an outcome that “enables China to declare victory in a way that’s acceptable to U.S. long-term national security interests” while avoiding an outcome where Taiwan is forcibly absorbed—but also avoiding conveying to Beijing that the conflict has become an existential threat to the CCP regime, necessitating a fight to the finish.¹⁶⁸ The goal will be to “convince Xi [Jinping] not that he has to give up on Taiwan, but that he has to defer [seeking Taiwan’s forcible absorption],” one interviewee commented.¹⁶⁹

Scale, Escalation, Protraction

PLA writings signal a belief in a high degree of capacity to exercise “war control,” something U.S. strategists tend to regard skeptically, recognizing the possibility that an adversary may misunderstand strategic signaling attempts.¹⁷⁰ As one interviewee warned, “how China approaches the conflict will matter . . . if the PLA thinks that they know how we would react, that’s hugely dangerous,” since it is extremely difficult to predict in advance how the United States will respond to any sort of attack carried out against it.¹⁷¹ At the same time, another interviewee remarked, an important consideration will be “how well do we understand the PRC’s escalation ladder, and will we be able to contain this conflict? Do we know how the PRC regards escalation management?”¹⁷² One recent survey found that

¹⁶⁷ Interview #18, U.S. government official, Washington, D.C., February 2020.

¹⁶⁸ Interview #8, former high-ranking U.S. government official, Washington, D.C., February 2020.

¹⁶⁹ Interview #2, former high-ranking U.S. government official, Washington, D.C., March 2020.

¹⁷⁰ Burgess Laird, *War Control: Chinese Writings on the Control of Escalation in Crisis and Conflict*, Washington, D.C.: Center for a New American Security, 2017.

¹⁷¹ Interview #7, U.S. Congressional staffer, Washington, D.C., February 2020.

¹⁷² Interview #19, U.S. Asia expert, Washington, D.C., March 2020.

several major gaps in our understandings of PLA thinking about escalation and war control remain, and some PLA concepts appear to be more risk-acceptant to U.S. observers than the PLA itself assesses these to be, posing risks of misperception and escalatory spirals.¹⁷³

Because the PLA has grown in capabilities over the past two and a half decades since the 1995–1996 Taiwan Strait crisis, “U.S. force flow will have to start earlier . . . decision points will have to be pushed up to times when U.S. public attention is not yet fully engaged, meaning the stakes will go up.”¹⁷⁴ Still, “if the U.S. decides to go, the President will approve full flexible deterrent options . . . and that means 5th Fleet and 6th Fleet,” one interviewee stated, caveating that “it’s not clear whether they would go to Taiwan [directly], to Japan, to Hawai‘i or to Guam. Part of the U.S. strategy will be to [be mobile], meaning that in addition to those locations noted above, U.S. forces might also [move farther] if it’s back to a place of better relations with us.”¹⁷⁵

Escalation management will likely prove a major challenge for U.S. policymakers. “Once we’re into the fight, the dynamics will make it harder to de-escalate and easier to escalate,” one former high-ranking official commented, noting further that “the pressure to find off-ramps will be greater before D-Day than after.”¹⁷⁶ “The U.S. is not likely to deliberately climb the escalatory ladder,” one interviewee remarked.¹⁷⁷ “Our objectives should be limited to avoid expansion [of the war] and escalation, especially avoiding PRC red zones,” a former high-ranking U.S. military officer agreed.¹⁷⁸ As another interviewee with high-level defense policy experience put it, “the

¹⁷³ Alison A. Kaufman and Daniel M. Hartnett, *Managing Conflict: Examining Recent PLA Writings on Escalation Control*, Arlington, Va.: CNA, 2016.

¹⁷⁴ Interview #18, U.S. government official, Washington, D.C., February 2020.

¹⁷⁵ Interview #12, former high-ranking U.S. government official, Washington, D.C., February 2020.

¹⁷⁶ Interview #11, former high-ranking U.S. government official, Washington, D.C., March 2020.

¹⁷⁷ Interview #4, former high-ranking U.S. government official, Washington, D.C., April 2020.

¹⁷⁸ Interview #20, former high-ranking U.S. military officer, Washington, D.C., March 2020.

U.S. always wants to avoid pouring gas on a conflict, and so may be reluctant to jump into the fight in a big way.”¹⁷⁹

Such pressures could affect the top leadership of the PRC and PLA too. As one interviewee explained:

Xi Jinping doesn’t have an appetite for risk of war with the U.S. The PLA’s goal will be to keep Japan out with political warfare and warnings that they will be targeted if they intervene, [and their assessment is likely that] Taiwan won’t fight hard, so they can achieve a fait accompli before the U.S. can intervene. If they have to attack U.S. bases in Japan, they know that would degrade the U.S. ability to fight, but probably not our will to do so as long as we have access to other facilities and bases across the region. Hitting Guam is likely akin to hitting U.S. bases in Japan for many Americans. [And the Chinese know that] once U.S. bases in Japan and/or Guam are attacked, the U.S. would be in 100 percent. As to any distinctions between striking Hawai‘i, Alaska, or the continental U.S., there’s no meaningful distinction between these as targets, and, once hit, there’s no chance the U.S. would concede, because doing so would mean giving China the region—and maybe more.¹⁸⁰

Another observer thought that a strike on Guam was “probably less escalatory than a strike on Japan,” but everyone we spoke with agreed with one interviewee who said that “a strike on CONUS [the continental United States] would change everything,” though this interviewee regarded such an attack as “unlikely, since to do this almost certainly means total war.”¹⁸¹ Another interviewee agreed, pointing out that “the last time the U.S. homeland was hit, we went to war,” making it unlikely that the PLA would pursue such an approach—but another expert cautioned not to embrace that con-

¹⁷⁹ Interview #13, former high-ranking U.S. military officer, Washington, D.C., March 2020.

¹⁸⁰ Interview #16, U.S. Asia expert, Washington, D.C., February 2020.

¹⁸¹ Interview #5, U.S. government official, Washington, D.C., February 2020.

clusion with too high a degree of certainty, since “we’re relying too much on the sense that ‘they wouldn’t dare’ attack us.”¹⁸²

One subject that PLA writers have expressed particular interest in, and PLA weapons procurement has focused on, is sinking U.S. aircraft carriers. PLAN submarines, air- or ship-launched cruise missiles, and the DF-21D antiship ballistic missile are some of China’s leading tools for attempting to do this, on the assumption that knocking out a carrier or two might put the United States out of any fight early.¹⁸³ Steve Tsang, an academic at the School of Oriental and African Studies at the University of London, has argued that, on the contrary, a PLA attack on a U.S. carrier, even a “mission kill” that did not sink the vessel, could spur a rally-around-the-flag movement in American politics, urging the government to commit more resources to defeating the PLA.¹⁸⁴

“Any PRC belief that the sinking of a carrier would knock the U.S. out of the fight is dangerously mistaken,” argued one U.S. Asia expert with deep knowledge of the U.S. military, an opinion that another interviewee with defense policy experience echoed, stating “nobody who understands U.S. history could realistically think that sinking a carrier would lead the U.S. to cede the field of battle.”¹⁸⁵ “The U.S. is not likely to quit even if a carrier sinks,” one interviewee stated, noting that “we’ll continue to need trade access to both Northeast and Southeast Asia, and so we cannot cede the field to China over the loss of a ship or two. The U.S. didn’t cede the field in past wars when ships hit mines or when the U.S.S. *Cole* was bombed, [and we wouldn’t now either.]”¹⁸⁶ Another interviewee agreed and went even further,

¹⁸² Interview #19, U.S. Asia expert, Washington, D.C., March 2020; Interview #17, former high-ranking U.S. government official, Washington, D.C., February 2020; Interview #9, former U.S. government official, Washington, D.C., February 2020.

¹⁸³ J. D. Simkins, “‘We’ll See How Frightened America Is’—Chinese Admiral Says Sinking U.S. Carriers Key to Dominating South China Sea,” *Navy Times*, January 4, 2019.

¹⁸⁴ Steve Tsang, “The U.S. Military and American Commitment to Taiwan’s Security,” *Asian Survey*, Vol. 52, No. 4, July/August 2012.

¹⁸⁵ Interview #19, U.S. Asia expert, Washington, D.C., March 2020; Interview #4, former high-ranking U.S. official, Washington, D.C., April 2020.

¹⁸⁶ Interview #13, former high-ranking U.S. government official, Washington, D.C., March 2020.

arguing that in a war with China over Taiwan, “carriers are not strategic assets—they are tactical assets, and we need to understand that the PLA will be able to hurt us if we are at war with them.”¹⁸⁷ Ultimately, one interviewee remarked, while the USN might want to fight on even in the face of the loss of a carrier, “it won’t make a difference what the Navy wants; it will matter what the country wants. If the American people are not prepared and do not understand why the defense of Taiwan matters, then the loss of a carrier would be hugely damaging” to the ability to sustain support for the U.S. war effort.¹⁸⁸

Another factor that U.S. policymakers need to consider is how far the PLA and CCP might be willing to go. Previously, Chinese military officers, who may have been engaged in psychological warfare operations or may have been reflecting their own assessment of the possible logical extent of a clash between two great powers, have voiced the possibility that Beijing might be prepared to escalate into the nuclear domain in a conflict over Taiwan. In 1995, then head of PLA military intelligence Gen. Xiong Guang-kai threatened the use of nuclear weapons, a threat Gen. Zhu Chenghu repeated in 2005, declaring that “we Chinese will prepare ourselves for the destruction of all the cities East of Xi’an. Of course, the Americans will have to be prepared that hundreds of cities will be destroyed by the Chinese.”¹⁸⁹

Nuclear usage to win is just one side of the coin; Beijing might also feel compelled to escalate if it was facing defeat. “Why would we think the PRC would not use nuclear weapons against Taipei if it was losing? If they had lost their best forces, would they just accept it? Using their nuclear weapons would have value in sending a message to Xinjiang and Tibet that ‘winning is losing’ and would also carry deterrent value vis-à-vis Russia, India, and Japan. Concern about regime change would be at the forefront of CCP leaders’ minds in such a situation.”¹⁹⁰

¹⁸⁷ Interview #20, former high-ranking U.S. military officer, Washington, D.C., March 2020.

¹⁸⁸ Interview #14, former high-ranking U.S. military officer, Washington, D.C., March 2020.

¹⁸⁹ Joseph Kahn, “Chinese General Threatens Use of A-Bombs If U.S. Intrudes,” *New York Times*, July 15, 2005.

¹⁹⁰ Interview #6B, U.S. Asia expert, Washington, D.C., February 2020.

Even absent such a dire development, a war with the PLA could stay conventionally hot at a high operational tempo for a long time or could be an extended period of low-intensity conflict, among other possibilities.¹⁹¹ “If we defeat or undermine the PLA’s operation, what if the conflict turns protracted?” one expert worried, noting that such a possibility would necessitate consideration of long-term basing in Taiwan, or potentially the prospect of a globalized conflict carried on in other theaters.¹⁹²

Geographic Scope and Interaction with Other Theaters

While some U.S. policymakers will regard it as desirable to contain the conflict to the Taiwan Strait or the Indo-Pacific theater more broadly, there may well be a search to identify points of leverage that might be more effective and/or less escalatory through horizontal as opposed to vertical escalation. As one former high-level official commented, “a geographically delimited plan of attack may be too narrow an aperture through which to view a U.S. response,” arguing that even if it starts as a conflict over Taiwan, ultimately, “the war could be global.”¹⁹³

Even if the United States decides not to expand the conflict vertically itself, or manages to contain horizontal escalation pressures from China, it will have to be mindful of the equities it has in other theaters, most notably U.S. European Command and U.S. Central Command; it will also need to continue to deter North Korean aggression within the INDOPACOM theater. These other theaters or mission sets would likely “be forced to do with less in order to win [the Taiwan Strait fight], not risk losing because of a desire to ensure sufficient deterrence versus opportunistic actors [in other

¹⁹¹ David C. Gompert, Astrid Stuth Cevallos, and Cristina L. Garafola, *War with China: Thinking Through the Unthinkable*, Santa Monica, Calif.: RAND Corporation, RR-1140-A, 2016.

¹⁹² Interview #19, U.S. Asia expert, Washington, D.C., March 2020.

¹⁹³ Interview #15, former high-ranking U.S. government official, Washington, D.C., April 2020.

theaters].”¹⁹⁴ This raises an important point, one interviewee argued, namely, “can we still manage a two-[major regional contingency] situation?”¹⁹⁵

Domains

Chinese war-planners are thinking of seven domains in which they are prepared to conduct military operations: on land; at sea; in the air; in space; through cyberspace; across the electromagnetic spectrum; and via information operations targeted at psychological operations, public opinion warfare, and legal warfare.¹⁹⁶ While the land, air, and maritime domains are not particularly escalatory in and of themselves, some analysts believe that how China prosecutes a conflict through cyberspace and outer space could be quite a bit more escalatory than simply air or naval warfare, since these other domains are critical enablers for C2 (even though the U.S. military is moving to a more distributed and resilient C2 architecture spread across numerous platforms and even weapon systems). Interviewees agreed that, as one commented, “cyber and space will be in play from the beginning. . . . These are not inherently escalatory domains, nor will [military operations conducted in them be surprising] because everyone expects it.”¹⁹⁷

The PLA has sought to develop an “integrated, strategic deterrent” that can give it the ability to exercise what American observers would consider coercion, including through space.¹⁹⁸ “If the PLA’s counter-C4ISR capabilities prove better than we expect, . . . that could spur a U.S. effort to de-escalate

¹⁹⁴ Interview #11, former high-ranking U.S. government official, Washington, D.C., March 2020.

¹⁹⁵ Interview #19, U.S. Asia expert, Washington, D.C., March 2020.

¹⁹⁶ State Council Information Office, 2019; Office of the Secretary of Defense, 2019; Peter Mattis, “China’s ‘Three Warfares’ in Perspective,” *War on the Rocks*, January 30, 2018.

¹⁹⁷ Interview #5, U.S. government official, Washington, D.C., February 2020; Interview #16, U.S. Asia expert, Washington, D.C., February 2020; Interview #19, U.S. Asia expert, Washington, D.C., March 2020.

¹⁹⁸ Michael S. Chase and Arthur Chan, *China’s Evolving Approach to “Integrated, Strategic Deterrence,”* Santa Monica, Calif.: RAND Corporation, RR-1366-TI, 2016; Dean B. Cheng, “Chinese Views on Deterrence,” *Joint Force Quarterly*, Vol. 60, No. 1, 2011.

quickly.”¹⁹⁹ Another expert argued that if China strikes at the United States “in a way that is hugely escalatory,” this could prompt a *more* substantial American response, whereas if the PLA engages the United States in space and/or cyberspace “smartly,” that may be more difficult to detect or treat as a *casus belli*.²⁰⁰

China has also moved increasingly toward an embrace of “hostile social manipulation,” or disinformation campaigns conducted online and through social media.²⁰¹ “The social media space will be contested,” one interviewee remarked, both for the propagation of messaging intended to tell China’s side of the conflict to international society and in terms of spreading disinformation intended to suppress adversary morale.²⁰² The U.S. military and U.S. policymakers will need to be prepared for such competition in the information domain and will need their own options for responding.

Conclusions

China’s confidence in its ability to deter the United States and control events in a crisis are core factors in understanding how it considers risk. In part, its deterrence and ability to control events will be tied to military capability. The variety of scenarios highlighted here demonstrates a considerable number of tools, if not a complete set, available to PRC decisionmakers. Most notably, in recent years, the PRC has worked hard to develop its non-kinetic, nonmilitary tools for managing its regional interactions. PRC leaders view these capabilities as necessary ingredients in their striving to build a broad array of foreign policy tools. The military component is a major

¹⁹⁹ Interview #6B, U.S. Asia expert, Washington, D.C., February 2020.

²⁰⁰ Interview #7, Congressional staffer, Washington, D.C., February 2020.

²⁰¹ Michael J. Mazarr, Abigail Casey, Alyssa Demus, Scott W. Harold, Luke J. Matthews, Nathan Beauchamp-Mustafaga, and James Sladden, *Hostile Social Manipulation: Present Realities and Emerging Trends*, Santa Monica, Calif.: RAND Corporation, RR-2713-OSD, 2019; Scott W. Harold, Nathan Beauchamp-Mustafaga, Jeffrey W. Hornung, *Chinese Disinformation Efforts on Social Media*, Santa Monica, Calif.: RAND Corporation, RR-4373/3-AF, 2020.

²⁰² Interview #18, U.S. government official, Washington, D.C., February 2020.

element—and one that lagged for many years—but even as it has progressed, PRC political leaders are pursuing other means of influence.

Xi's negative views of the military balance as deduced from the evidence in previous chapters, including the "Two Incompatibles" (i.e., current PLA capabilities do not meet the requirements of modern warfare or modern nonwar operations) and "Five Incapables" (i.e., widespread inability by PLA operational commanders to make accurate judgments, understand higher-level intent, make operational decisions, deploy troops, and deal with unexpected situations) will likely diminish his willingness to use the PLA in many circumstances, particularly those that involve high-risk missions in which failure could expose the PRC to international criticism and reveal PLA shortcomings and weaknesses to an international audience. From this standpoint, it is important for China to maintain the perception among potential adversaries that its military is capable and its leaders are willing to use it if deterrence fails. Likewise, Xi may likely be reticent to give the military too much latitude in contentious situations or to become too assertive in periods of high tension or crises for fear of escalation that forces him to use a PLA that is not ready for many of the aspects of modern warfare that PRC leaders view as essential to success.

Xi's conception of risk also goes well beyond his concerns about the PLA. Xi's overarching agenda is still focused on the "China Dream" and ensuring China's continued social and economic development in a stable environment. Although Xi's concerns about the PLA are likely an impediment to his willingness to use the military, his emphasis on other areas of PRC instruments of power demonstrate that he seeks a well-rounded set of policy tools and options. Of course, Xi's views of the military balance (largely inferred from his assessment of the PLA) and his broader agenda do not suggest that China would be unwilling to use force if the situation developed. The PLA today, though still troubled in certain key areas, is vastly more capable than it was during the tumultuous Taiwan elections in 1996, 2000, and 2004; however, it also has considerably more to lose because China's economic interests and national wealth have developed over the past 25 years.

U.S. decisionmakers are also faced with a series of challenges regarding the nature of the conflict, Taiwan's will to fight, and the assessment of how likely a U.S. victory might be. In many respects, these factors depend to some extent on the PLA's capability and the PRC's willingness to take

losses—potentially heavy losses—to achieve unification with Taiwan. As many of these calculations and decisions are founded on American leaders' understanding of PLA capabilities, it is also necessary to consider that in many cases, U.S. assessments of China's military strength do not reflect many of the factors that might constrain Beijing's actions while simultaneously failing to grasp the major systemic issues that concern Xi.

Conclusions and Implications

The rise of China's military, beginning in the early 1990s, has been categorized as one of the most rapid military modernization efforts in modern history. The PLA, during this time, has made substantial progress in nearly every respect. The military observers who analyzed and prognosticated about the United States' prospects on the eve of the Gulf War have either been replaced by a newer generation of PLA officers or have gone to school to study American military operations after the Gulf War. Following the United States' success in Operation Desert Storm, the PLA was determined to become a modern military capable of competing with the United States and its allies. The PLA modernization program initiated with the 1993 *Military Strategic Guidelines* has been a demonstration of Chinese will and determination.

Beginning with the 1993 guidelines, China has also shifted its main strategic direction to focus on Taiwan. Doubts about whether the United States would support Taiwan in a conflict have long been removed for Chinese leaders. PRC political and military leaders have ensured that the PLA's modernization focus has not been on general, theoretical principles. They have made clear for many years that the United States was the "strong enemy" and a dangerous potential adversary. Although the PRC deemphasized this perspective in most interactions between the United States and China and protested against claims that China's military modernization presented a potential threat, the PLA has been crystal clear about its pacing threat for the past three decades. While the strategic emphasis was on ensuring that Taiwan would not pursue independence, the military emphasis was on developing the capability to fight the United States' operational system-of-systems.

As mentioned in the introduction, the PLA is a learning organization that has taken its observations and lessons learned and practically incorpo-

rated them into new organizations and operational concepts. It has observed successful foreign practices, including joint operations, training with simulated opposing forces, and enhanced PME. It has also developed programs rooted in its own historical experiences and learned from the examples of others with similar systems. The development of CMF and the NDMS, a modern civil air defense system, and national defense education have been derived from PRC observations of other authoritarian governments that faced the United States in conflict. The PRC's wartime system encompasses more than just operational forces. It also includes the mobilization of key resources and elements of the Chinese population to fight the enemy—but also to protect the Party and China's economic viability. In addition, the Party's emphasis on maintaining the PLA's subordination and loyalty are part of lessons learned from the Soviet Union's collapse. Party discipline, command of the PLA, and order within the population are critical elements for ensuring the PRC's survival under CCP rule.

The PRC's incorporation of these lessons into its wartime system is an imperative and not a luxury or an option. The conditions of modern warfare—asymmetric, noncontact, and nonlinear operations—have made concepts like joint operations and systems warfare essential factors in the PRC's success, or maybe survival, in a future conflict. More specifically, the PLA recognizes that large numbers of advanced platforms and weapons mean little if they are not integrated into a broader operational system-of-systems. This integration does not occur simply by having an information architecture to support C2, ISR, and command automation tools for planning, targeting, and decisionmaking support. The element that enables this integration is effective command and leadership that is capable of assimilating the large amounts of battlespace information, analyzing and assessing options, developing courses of action, and making decisions that support the PRC's broader wartime objectives. Effective leadership and command therefore requires realistic and rigorous training, an effective command structure, the appropriate authorities, and a force familiar with joint operations and the latest CONOPs.

The success of the operational system-of-systems will also rely on the strategic systems supporting the PRC's overall war effort. Effective strategic command and strategic management is necessary to ensure that the proper resources and direction are provided to all relevant theaters and that

the PRC's multiple operational efforts are coordinated and synchronized toward one primary end. The NDMS and civil-military infrastructure are necessary to ensure that the PLA has the resources necessary for its wartime activities, but also to ensure effective stability management and emergency response in China's major population centers. PRC leaders have learned that for all its military forces to maintain their focus on critical operations, it is necessary to protect the population and ensure their support. A failure to do this could likely lead to defeat.

Because of these factors, China's assessment of the military balance with the United States does not rely on a force-on-force comparison of weapon systems and personnel. The PLA's inventory is clearly growing in both size and sophistication, but Xi Jinping and other PRC leaders are clearly concerned with broader systemic concerns that get directly to the heart of those areas that the PLA believes are necessary for modern warfare. The opening examples discussed in the introduction of this report should caution against dismissing these systemic concerns. All militaries are reflections of the political system that they serve. In China's case, despite the PLA's progress in many areas and its increasingly sophisticated inventory, Xi's concerns reflect many of the worst elements of China's political system—corruption, unwillingness to show initiative, poor cultivation of talent, and bureaucracy, among others. Xi's directives, focus, and leadership may, in the end, remedy these problems, but changing a deeply ingrained culture will take time. In the interim, it is clear, as indicated by the four areas that Xi thinks about most, that he does not have great confidence in the PLA's ability to “fight and win” the informatized wars that it may face in the future.

Challenges and Caveats

One of the primary reasons why military analysis of the PLA that emphasizes quantitative factors is popular is that it provides a standard of comparison that is easily recognizable. The PLA has also placed significant emphasis on developing these quantitative tools to support its experimentation, planning, and command automation systems. Likewise, many Western analytic efforts—most notably involving wargames, models, and simulations—have concluded that the PLA has either surpassed or soon will surpass the United

States in any number of categories, further complicating U.S. ability to support and defend its partners and allies in the region. Many of these assessments have also used these quantitative analyses to argue that PRC leaders are becoming more confident in the PLA's capabilities, potentially even modifying timelines for military action designed to compel unification with Taiwan.

This report draws on qualitative assessments and judgments coming from the PLA and its political leaders, particularly Xi. However, the more significant contrast between this report and those that rely on quantitative factors is that the types of concerns highlighted by Xi and others in the PLA are almost never core elements in the wargames, models, or simulations that generally rely on these quantitative comparisons. Issues of command, training, proficiency, joint operations, and reliability are rarely, if ever, examined. Their importance to the core operational concepts that embody PLA system-of-systems operation goes unexamined and is not factored into findings and conclusions.

The decision to rely on PRC perspectives led to this report being kept at a strategic level focused on broad topics and themes in PLA modernization. Its conclusions were primarily derived from those areas that PRC sources highlighted, including Xi's concerns, the slogans describing the PLA's systemic shortcomings, and those publications that either provided in-depth analysis of military research topics or delivered and reinforced messages to a broader PLA audience. Accordingly, our sampling of critical areas was narrowed down slightly from the broad outlines of strategic guidance delivered to the PLA. Furthermore, our report was able to take advantage of a large number of PLA articles and assessments over a relatively large time span.

Building on the report's broad scope and the general nature of most of its sources, future research should focus on more-granular cases suggested by the areas of concern highlighted in this report. Also, many PLA sources provide negative assessments. While it is possible that these assessments may overstate PLA shortcomings or be indicative of negative biases that exist in many militaries, the body of PLA research over many years highlights several patterns that suggest that these problems are systemic and persistent. Constrained by the scope of this report, we were unable to explore this issue in greater depth, but it deserves a more focused treatment.

Military Net Assessment Pitfalls

This report also sheds light on several pitfalls in performing military net assessments that should be understood and addressed. The two opening examples highlighted how both the United States and Chinese assessments misunderstood and misread the capabilities of the target countries that they were examining. The United States' JMNA failed to document the political and social dynamics that would invalidate many of its conclusions within slightly less than a year. The Chinese failed to appreciate not only the military technical aspects of the revolution in military affairs, but also the extent to which U.S. training and preparations over the decade prior had created an optimal condition for its forces to operate against Iraq. Both misinterpreted the political-military dynamics in their target countries. The United States implicitly assumed a resilient, innovative adversary despite the signs of political disarray in the Warsaw Pact and Soviet Union and a humiliating Soviet loss in Afghanistan similar to the United States' defeat in Vietnam. The Chinese, in contrast, underestimated the United States' political will and the impact that the recent Goldwater-Nichols reforms would have on its military.

In the case of China's military today, it seems obvious that the PLA has made great strides as the PRC has grown in all aspects of national power. There is a mountain of evidence showing new weapons systems, advanced technologies, organizational affiliations, and what appear to be increasingly complex exercises and training. It becomes a major challenge to square these observables with the troubled PLA that is routinely discussed and analyzed in Chinese publications. In the case of the U.S. 1990 JMNA and the Chinese assessments of Iraq, both nations looked at the existence of "things" and assumed certain end results. For instance, the Chinese view that Iraq was a battle-tested, competent military was a common assessment, even for United States' planners. However, when put to the test against a modern adversary, the Iraqi military's problems with leadership, proficiency, and will to fight quickly became apparent. Similarly, the United States' JMNA provides a strong example of how long-held assumptions about an adversary may be difficult to change, even after evidence of such recent problems and failures as the Soviets experienced in Afghanistan. By relying on sources detailing PRC assessments of the PLA's progress and problems, the authors

of this report attempted to avoid this pitfall. Our findings raise some important questions about PRC leadership views of the PLA's progress that seem contrary to many Western analyses of the PLA. These findings suggest that despite the PLA's progress, substantial problems limit its leaders' confidence in the PLA and raise questions about the PLA's ability to meet the objectives outlined in its military strategy.

An interesting exercise that goes beyond the scope of this paper but might help highlight several of these points could involve an examination of Western analyses and wargame results involving the PLA up to late 2015, when the PLA announced its major reform. Most Western observers today view those reforms as necessary for the PLA to become a modern military.¹ However, did Western analyses prior to the reforms address what was obvious to Xi and many other PRC political and military leaders—that the PLA's organization prior to the reforms was not capable of fighting a modern war and that major changes in proficiency, command, and readiness could not be achieved without this major reshuffle? This question is an important one for understanding our own assumptions and assessments about the PLA. The answer is out of this paper's scope, but it is highly unlikely that U.S. assessments provided due attention to this key problem area recognized by Xi and other senior Chinese political and military leaders.

This report has also pointed out several times that the PLA today is vastly more capable than the PLA that existed during the Taiwan Strait Crisis in 1996. Likewise, today's PLA is also more capable than the one that existed during the EP-3 incident and the cross-Strait tensions surrounding the Taiwan elections during the first decade of the 21st century. This being the case, it seems reasonable to expect PRC leaders to be less negative about the PLA's progress to date; however, the PRC thinks about capabilities in relative terms, and the United States has been and remains the standard against which it measures itself. As Chapter 5 demonstrates, PLA researchers do see progress, particularly in terms of PLA capability developments that have forced the United States to pursue CONOPs that now emphasize distributed

¹ For a detailed discussion of PLA reforms, see Phillip C. Saunders, Arthur S. Ding, Andrew Scobell, Andrew N. D. Yang, and Joel Wuthnow, *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, Washington, D.C.: National Defense University Press, 2019.

lethality—a move that complicates both the United States’ ability to mass fires and the PLA’s ability to find and target these forces. However, only in limited cases do these same researchers see this as a clear advantage and positive development. Instead, several see this as a new challenge, and one in which the United States’ proven capabilities in ISR, information technology, and mobility may provide it with an advantage despite being forced to change its operations. This example also highlights a key component of the PLA’s internal critiques and its relative assessments of its capabilities—that the United States remains an experienced, combat-tested force and the PLA is not. This realization goes well beyond discussions of “peacetime habits” and “peace sickness,” which both refer more to bureaucratization and “work style” in the PLA. Instead, it is frequently highlighted in PLA discussions about its commanders, the realism of its training, and the problems it has experienced in developing its joint operations capability. In each of these three areas, the PLA’s lack of recent experience looms large.

Implications for the PLA’s Implementation of Systems Warfare

China’s assessment of the military balance indicates that, even with China’s progress, the United States may maintain certain advantages, particularly in the perceived adaptability of American forces and the ability of United States’ commander and command organizations to effectively plan and make decisions. Similarly, the United States’ experience with joint operations over the past three decades may provide a significant advantage over the PLA in an area on which the PLA’s leaders have placed great emphasis but in which they still see major limitations in their overall progress. As discussed in the introduction, this report is not a true net assessment and did not examine the United States’ capabilities in these areas; however, these three areas are all constant themes in PLA press, either in highlighting PLA shortcomings or in discussing the United States as a model for emulation. What is clear from these sources is that the PLA—and Xi, in particular—have major concerns about the PLA’s ability to succeed in the dynamic combat environment involving systems warfare (i.e., systems confrontation and systems destruction).

These findings also have implications for how the PLA might respond if called upon to act. The development of theater commands was a significant step for the PLA. It replaced a system in which operational planning was centralized with the GSD, likely with only limited input from Military Region commanders. Xi's speeches announcing the stand-up of the theater commands demonstrate the priority he assigned to this reform and its overall importance for improving planning and readiness. Immediately after the reforms, it was apparent that concerns within the PLA about the capabilities of commanders at all levels were pervasive. The PLA has since developed training and education programs to develop its commanders, but it is not clear how successful these programs have been or whether there has been sufficient time for them to have the intended effect. Similarly, Xi's concerns about the political reliability of the PLA in general—but more importantly of PLA commanders—may have implications for how much latitude senior-level leaders are willing to allow. One of the core reasons why planning was managed by the GSD for so long was the lack of trust that the CMC had in commanders at lower levels. Ultimately, crises and military situations were deemed too important to relegate to lower levels of command that were geographically distant from Beijing and might not be capable of ensuring adherence to the CMC's overarching objectives and guidance. Themes such as the "Five Incapables" and the "Three Whethers" illustrate elements of those areas that seem to concern Xi the most—namely, commanders' ability to lead effectively and implement the Party's directives. This friction raises questions about the long-term prospects for the decentralized planning that the PLA's theater commands were designed to provide. Further, it raises the question of how much trust exists in the system and the extent to which the CMC will micromanage PLA operations in a future conflict.

A related implication is whether PLA commanders at lower levels will feel empowered to make decisions or accept risk. Xi's concerns have highlighted his disappointment with PLA commanders' ability to judge situations and make the appropriate decisions. New system-of-systems-related CONOPs rely on flexibility and adaptability to succeed. Commanders who are either unwilling or unable to make decisions call into question the PLA's ability to execute these types of operations. This is particularly important as the PLA considers methods for countering new U.S. CONOPs that require rapid decisions on targeting and force allocation. According to one key PLA

text discussed in Chapter 4 of this report, the PLA still has problems with both targeting and assessment, both of which are key indispensable elements in each of these new concepts.²

Similarly, centralization and poor decisionmaking run the risk of creating bottlenecks that could slow the PLA's ability to respond to developing situations and shift between the phases designated in their operational plans. In essence, these bottlenecks could lead to the PLA's operational command system being overwhelmed as well as decreases in efficiency. These possibilities become more likely as the PLA places more emphasis on assessment at lower levels of command. The questions raised in the PLA's self-critiques also need to be considered in terms of operational efficiency, particularly regarding the PLA's understanding of the consumption rates associated with noncontact operations. Conservative or risk-averse decisions could lead to an overallocation of weapons in some circumstances, thereby reducing critical munitions stockpiles for later phases, operational objectives, and unexpected developments. This potential challenge is by no means unique to the PLA, but it does require a willingness to make decisions and accept some level of risk—both of which are general concerns that the PLA has about the quality of its commanders.

A general takeaway from the PLA sources used in this report is that there appears to be a significant contradiction in the PRC's desire to reassert centralized control over the PLA—mainly through the reassertion of CCP control—and the requirements for lower-level flexibility and adaptability for such concepts as target-centric warfare. This is not explicitly stated in PLA texts, but it is strongly implied by Xi's expressed concerns about the PLA's political reliability and its leaders' ability to follow the Party's commands. Xi's speeches to the service organizations shortly after the initiation of PLA reorganization and reform at the end of 2015 made clear the need to maintain Party control, but also made references to concerns about the willingness to accept Party guidance at lower levels. When considered with Xi's crackdown on corruption, attempts to eradicate poor "work styles," and increased use of the CMC's Discipline and Inspection Committee, a major question that arises is whether PLA commanders will be willing to make

² Dong Lianshan, 2015, p. 216.

the necessary decisions—or if the fear of repercussions will lead them to risk-averse courses of action. This question remains unresolved, but developments in this area should be monitored closely.

Implications for Use of Force and Deterrence

China's, more particularly Xi's, concerns about the military balance should not be interpreted to signal that Beijing is unwilling to use force. The PLA today, regardless of these assessments, is vastly more capable than it has been at any point in the past three decades. PRC leaders have also demonstrated their willingness to use the PLA in many nonwar situations involving shows of force, intimidation, coercion, and military diplomacy. Most notably, Chinese leaders' willingness to increase the PLA's global footprint and interaction with other militaries is an indication of their growing confidence. The larger question that remains, however, is what impact China's view of the military balance has on its use-of-force decisionmaking. Almost certainly, a lower degree of confidence in the PLA's capabilities will suggest a heightened perception of associated risk in situations that may escalate to military confrontation or combat. China's pursuit of other policy tools, as highlighted in Chapter 6, suggests that it is developing the capabilities necessary for a comprehensive approach to its national security while it continues to build the PLA's capabilities.

Xi's concerns also raise questions about his confidence in the PRC's current deterrent posture. PLA authors have routinely addressed the importance of military capability to a nation's overall capability to deter its adversaries. Although not discussed directly in PLA sources, a lack of confidence in the PLA's capabilities and a negative perception of the U.S.-China military balance could prompt more aggressive efforts by PRC leaders to push key reforms and improvements in the PLA. It is uncertain whether this is the driving factor behind Xi's recent acceleration of the PLA's modernization timeline; however, Xi has expressed concerns about the state of the PLA since the beginning of his tenure and his early calls to "prepare for military struggle."

A Time to Recalibrate U.S. Assessments of the PLA's Progress?

The PLA sees itself as the weaker side in the overall military balance, largely because it has made only limited progress in those key areas that will define future warfare—most importantly, informatization, joint operations, and systems warfare. China's political and military leaders do recognize the qualitative and quantitative improvements in the PLA's weapon systems and technology; however, in many areas that are essential to conducting systems confrontation and systems destruction warfare, there remain significant gaps that have received the attention of Xi himself. During Xi's tenure, in which the PRC has adopted a new set of military strategic guidelines and undergone one of the largest military reorganization and reform efforts since the end of the Mao era, the PLA has been forced to confront a range of problems that go well beyond technological modernization, force structure, and organizational relationships. At Xi's direction and prompting the PLA has been forced to confront an array of deep systemic issues, such as the PLA's reliability, its commanders' ability to plan and lead, its overall level of operational proficiency, and its ability to mobilize and deploy forces. In confronting these issues, the PLA has had to confront a range of issues in its organizational culture. Necessary improvements have not materialized quickly and will likely take time given the PLA's organizational culture and the reforms' systemic complexity—particularly in terms of improving capabilities relative to the PLA's primary benchmark, the U.S. military.

A refined understanding of Beijing's view of the PLA also has significant implications for U.S. policymakers, military commanders, and planners. Most importantly, Xi's view of PLA problems and weaknesses suggests that, in many scenarios, these reservations will likely temper his willingness to resort to force in light of the risk involved but may also lead to more-frequent and provocative actions to signal Beijing's resolve and willingness to defend its sovereignty and claims. While it is clear that Beijing has increased confidence in the PLA relative to the force that existed in years past, the areas that Xi and others have highlighted present core challenges to the PLA's ability to fight in the types of future wars that its strategists envision. A similar implication relates to the PRC's views of

its own deterrent. Although deterrence is not a core theme of this report, doubts about the PLA's operational readiness are likely to reduce Beijing's confidence in its overall deterrent posture.

Abbreviations

A2/AD	anti-access/area denial
AI	artificial intelligence
AMS	Academy of Military Science
ASB	air-sea battle
C2	command and control
C4ISR	command, control, communications, computers, intelligence, surveillance, and reconnaissance
CCP	Chinese Communist Party
CJCS	Chairman of the Joint Chiefs of Staff
CMC	Central Military Commission
CMF	civil-military fusion
CNP	comprehensive national power
CONOP	concept of operations
CONUS	continental United States
CPR	Chairman's Program Recommendation
CRAF	Civil Reserve Air Fleet
DMO	distributed maritime operations
DoD	U.S. Department of Defense
DPG	Defense Planning Guidance
EABO	expeditionary advanced basing operations
EM	electromagnetic

EW	electronic warfare
FY	fiscal year
GDP	gross domestic product
GPS	Global Positioning System
GSD	General Staff Department
ICP	integrated command platform
INDOPACOM	U.S. Indo-Pacific Command
ISR	intelligence, surveillance, and reconnaissance
JCS	Joint Chiefs of Staff
JMNA	<i>Joint Military Net Assessment</i>
JSPS	Joint Strategic Planning System
KMT	Kuomintang
LRPF	long-range precision fires
MDO	multidomain operations
ML/AI	machine learning/artificial intelligence
MLRS	multiple launch rocket system
NATO	North Atlantic Treaty Organization
NCO	noncommissioned officer
NDAA	National Defense Authorization Act
NDMS	National Defense Mobilization System
NDU	National Defense University
NEO	noncombatant evacuation operation
NIFC-CA	Navy Integrated Fire Control–Counter Air

OMTE	Outline for Military Training and Evaluation
PAP	People's Armed Police
PCA	penetrating counterair
PLA	People's Liberation Army
PLAAF	People's Liberation Army Air Force
PLAN	People's Liberation Army Navy
PLARF	People's Liberation Army Rocket Force
PME	Professional Military Education
PMS	Preparation for Military Struggle
PRC	People's Republic of China
PSYOP	psychological operations
ROC	Republic of China
SOF	special operations forces
SSF	Strategic Support Force
SUAS	small unmanned aircraft system
UAS	unmanned aircraft system
UAV	unmanned aerial vehicle
USAF	U.S. Air Force
USD	U.S. dollars
USMC	U.S. Marine Corps
USN	U.S. Navy

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The Republic of China's (PRC's) and the People's Liberation Army's (PLA's) understanding of the military balance is fundamentally based on systems warfare concepts. Systems concepts drive China's perceptions of the successes of its three-decade-old modernization and its identification of enduring or emerging weaknesses. China's leaders recognize the qualitative and quantitative improvements in PLA weapons and technology; however, in key areas essential to conducting systems confrontation and systems destruction warfare, there remain significant gaps that have received the attention of Xi Jinping himself. During Xi's tenure, the PLA has been forced to confront a range of problems that go well beyond technological modernization, force structure, and organizational relationships. Still, both the United States and the PRC, through different evaluation processes, have concluded that war with the other has the potential to be extremely risky from an escalation standpoint, protracted and costly, and fatally harmful to long-term credibility and/or strategic goals. This analysis is one of the first to detail how the PLA understands and assesses military balance.

The PLA sees itself as the weaker side in the overall military balance, largely because it has made only limited progress in those key areas that will define future warfare, most importantly informatization and system-of-systems-based operations. Necessary improvements have not materialized quickly and will likely take time because of the PLA's organizational culture and the improvements' systemic complexity. A refined understanding of Beijing's view of the PLA also has significant implications for U.S. policymakers, military commanders, and planners.

\$41.00

ISBN-10 1-9774-1056-1

ISBN-13 978-1-9774-1056-6



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